







**CAMOUFLAGE**

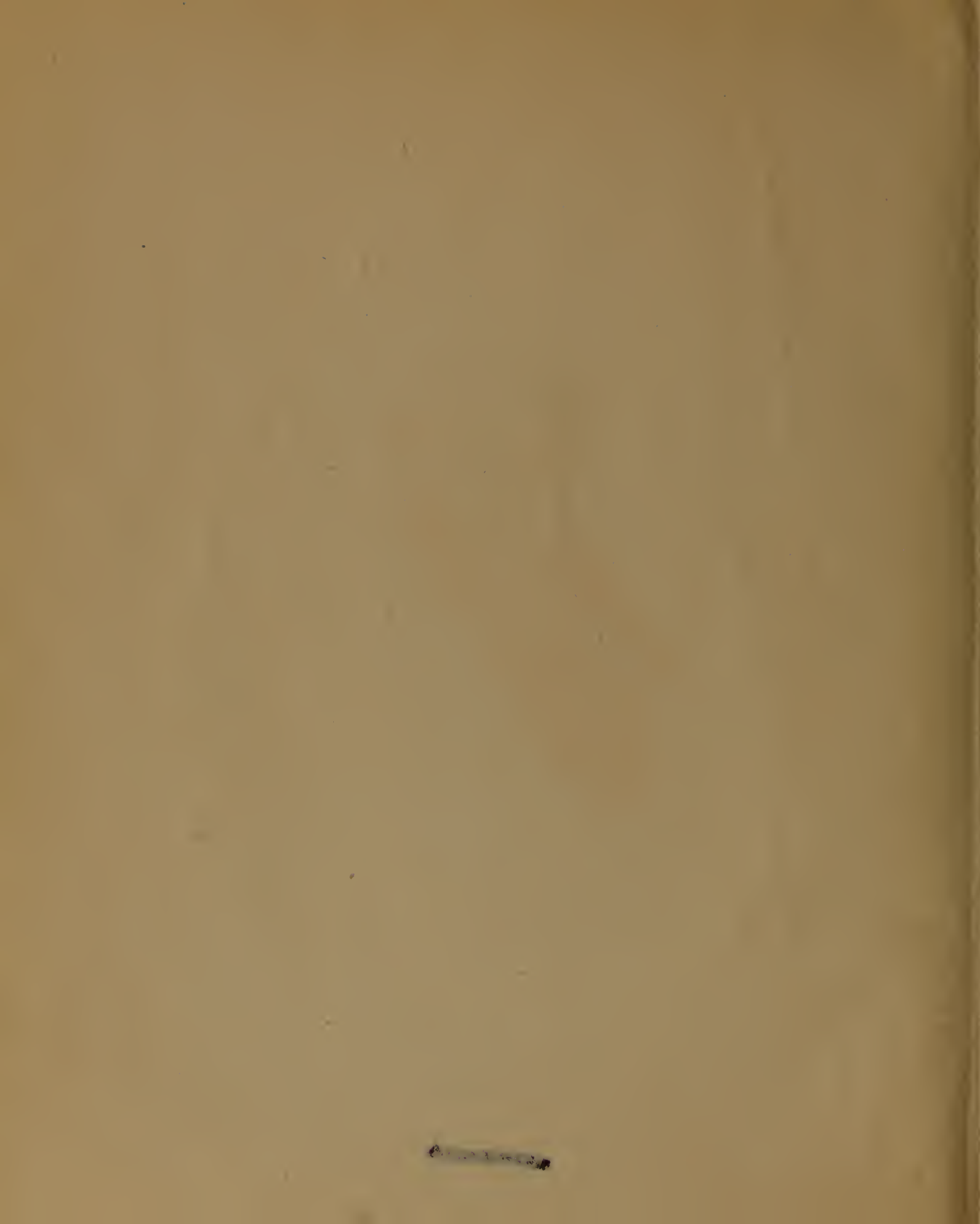
**FOR MARINES**





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## QUESTION

# What is Camouflage?

## ANSWER

CAMOUFLAGE IS THE SCIENCE OF MILITARY DECEPTION

\*It enables you to approach unseen and to remain hidden within striking distance of the enemy.

\*It affords protective concealment for your position, materiel and personnel from hostile detection.

\*It deceives the enemy as to your true position, strength, or intentions.

\*It provides the tools by which you can lure the enemy into a trap, or trick him into placing himself in a position of hopeless vulnerability where he can be quickly and easily annihilated.

\*It permits you, the individual, to see without being seen, thereby enabling you to strike first, fatally and at no cost to yourself.



# ★ ★ How is it ACCOMPLISHED? ★ ★

**By Hiding...** First, learn to hide yourself and your equipment by taking every advantage of any natural concealment afforded by the terrain. If nature alone is sufficient for your needs, let it do the work unaided. Never camouflage without a purpose. You will find that it is a waste of time, materials and effort.

**By Blending...** Unfortunately, we can rarely function or move without distinctively scarring, or altering in some particular, the normal appearance of the terrain. Since the works of man are usually geometric in form, they present easily recognized outlines and rectangular shadows which are very unlike the average terrain features. Blending distinctive man-made objects into the normal terrain pattern is necessary in order to restore or simulate its normal and natural appearance.

**By Deceiving...** Deceptive camouflage is nothing more than the old game of "bluff." In planning and execution it can be as beguiling as any game of poker. For example, a decoy position is a "phoney," which simulates a real one. Intelligently planned and cleverly executed decoys are among the most effective ways to deceive the enemy as to your strength, intentions, and location of your position.

**THE FOUR REQUIREMENTS...** No matter how applied, camouflage can be successful only by strictly observing four fundamental requirements.

**Choice of Position...** Proper choice of position utilizes both the tactical and concealment values of the terrain to the utmost. Any position that you can camouflage perfectly, but which seriously hampers your operation is extremely dangerous and must be avoided. It is a potential death-trap. Sometimes <sup>however</sup> an ideal tactical position can be very difficult, if not impossible, to conceal. In making a decision, the mission and its accomplishment must always be the deciding factor. *Proper choice of position is your first fundamental requirement.*

**Camouflage Discipline...** A well-camouflaged position is only as secure as the way you maintain it. Concealment is utterly worthless if obvious tracks point like directional arrows at the heart of your location or if you allow signs of occupancy to appear in its vicinity. *Proper camouflage discipline is the second fundamental requirement.*

**Choice of Materials...** To be effective, all materials used for camouflage purposes must be selected to match closely the adjacent terrain pattern, or feature in texture, tone and color. <sup>local</sup>

Two distinct types of materials can be used—artificial and natural. Artificial materials are man-made and include such items as paint, wire, oznaburg and burlap. They have the advantage of being semi-permanent. Natural materials are conveniently supplied by nature itself. They possess the overwhelming advantage of being always available. If a proper choice is made, they will match naturally the surrounding terrain pattern. Their one disadvantage is that after cutting, vegetation quickly fades or wilts and must be constantly replenished.

Marines today operate in highly mobile and self sustained fighting spearheads. They cannot be hampered by weighty and superfluous materials. Only essential weapons and the necessary equipment to generate the maximum effect in hitting power can be carried. For this reason, every marine must learn to depend on natural materials for concealment in action. *The proper choice of materials is your third fundamental requirement.*

**Application of Materials...** Successful camouflage can be achieved only when materials are properly applied and installed. The terrain must be simulated in texture, tone and color. All regular forms and shadows and tell-tale outlines of any concealed object must be completely hidden. Materials must, in other words, be applied with intelligence and common sense. *Proper application of materials is the fourth fundamental requirement.*

**THE EYES OF THE ENEMY...** The enemy can see you from two positions—on the ground and in the air. Frequently you can be seen from both viewpoints at once.

The problem of camouflage concerns itself not only with hiding yourself from the eyes of the enemy at ground level, but also from observation at every other conceivable angle of sight. He can possibly see you from all points of the compass, and from all angles overhead. You can feel secure from his prying eyes only when beyond the range of his planes and ships, and away from the activities of his land forces.

Aerial observation is the most exacting and microscopic method that the enemy can use to seek out your carefully chosen and well-camouflaged hiding place. Worse still,

an aerial observer possesses two sets of eyes—his own and the eyes of a camera. The lens of a camera can locate details in the terrain that are not apparent to the human eye. *The lens of a camera is a preliminary and very dependable bombsight.*

An aerial photograph gives the enemy the opportunity of conducting a leisurely, exacting and detailed examination of your suspected position. The things that can be learned about movements, strength, and installations from a single aerial photograph are truly amazing.

You and the enemy aerial observer play a continual game of "Cops and Robbers." The observer is like an eagle-eyed and cunning sleuth; you are like a man who knows there is a detective on his trail and who takes every precaution to hide his tracks. You are engaged in a perpetual battle of wits, a never-ending game of hide and seek. One mistake, one careless error will give the enemy a set of incriminating "fingerprints." It is all he needs. The inevitable result will be a prompt and unpleasant visitation of many pounds of well-directed and businesslike high explosives.

**PHOTO INTERPRETATION...** In order to conceal objects successfully from enemy observation, you must know how they appear and are identified on photographs. The method used is called "photo interpretation." For study on this subject reference should be made to FM 21-25 and FM 21-26 (Elementary, and Advanced Map and Aerial Photograph Reading).

The identification of objects on aerial photographs is effected by the following means:

**Form...** Form is the outward or visible shape of an object separated from its surface characteristics and color.

When we speak of the "form" of a man, we refer to his outline or shape. We are not concerned with the color of his complexion, whether he is bald or redheaded and has freckles on his nose. For instance, compared to an American, the form of a Jap is squat and stubby.

At a distance, we can recognize the form, or outline, of objects before making out details in their appearance. For this reason, camouflage has much to do with concealing the form of an object and is little concerned with its detail.

**Size...** The size of an object is always related to adjacent features. A truck on a road gives an idea of the road width; a canoe on a beach gives an idea of the width of the beach; and, in an oblique photograph, the height of trees can be judged by nearby fences or a building. In camouflage therefore, except when deception is intended,

it is important that any simulated common object should approximate the size of the original.

Our aerial photo interpreters, by minutely examining photographs taken over Kiska Island on a reconnaissance flight in the spring of 1943 easily identified some Japanese airplanes dispersed about an airfield, as being false or dummies. The hoax was discovered by the fact that the Japanese had committed the stupid blunder of not constructing the dummies to the proper size of the originals. A simple comparison between the relative sizes of the real and the false quickly led to their detection.

**Tone and Color...** Any colored surface possesses qualities of both "tone" and "color." Color is well understood. Tone is judged by the amount of light reflected by the color. In a black and white photograph these shades will register in varying tones of gray. In camouflage, we speak of a "tone down" when we refer to painting an object in the tonal values of its surroundings.

**Shadow...** An object can be readily identified by its shadow even though its form may not be apparent. The shadow of a coconut palm is quite distinctive, as are too the shadows of a tank, a gun, and an airplane.

It is more important to break up, disrupt, or obliterate the shadow of an object than to conceal totally the object itself.

**Texture...** By texture is meant the roughness, tooth or grain of a surface and its ability to cast multi-shadows on itself or its surroundings.

What makes things look light or dark? Partly it is their color and consequent capacity for light absorption but, with surfaces of the same color, it is texture that determines how light or dark they look. A perfectly smooth and level surface of green will photograph light or, in certain cases, almost white. This is because of its high light reflecting properties. The same shade of green with a rough or corrugated surface will photograph gray. This is because the broken surface is casting shadows upon itself and the amount of light reflected has therefore diminished. Take yet another surface of the same color but with a heavy "nap" or texture such as tall grass. Each separate blade will be capable of casting a shadow upon itself and its surroundings. The light reflecting properties have now been cut to a minimum. It will look and photograph dark gray.

Looking straight down, the airman sees *all* of the shadows whereas the man on the ground may not. The surface may look light at ground level, but to the airman, the textured surface produces an effect of relative darkness.

The texture of all materials used ★ (Continued on page 14)





# CAMOUFLAGE Terms



**CHICKEN WIRE...** Wire, netting, G. I., 1½ inch or 2 inch mesh. It is the kind of wire used in building chicken pens and is commonly called chicken wire. Used as camouflage netting in permanent and semi-permanent installations, it is more durable and will support more weight than fish net. Disadvantages: it is bulky, heavy, and stiff.

**DECOY...** A fake object or installation erected as a security measure for the purpose of drawing the enemy's attention away from the true position. As a tactical move, expendable gear or troops may be used as decoys to invite attack and conceal the real maneuver. The decoy is pure deception, and sounds, smoke, lights, can be used as well as objects.



**DISRUPTIVE PAINTING...** Painting in irregularly shaped patches or splotches of contrasting colors so that the true shape of the object painted will be disrupted or distorted. The eye will be attracted to the shapes of the splotches and away from the real shape of the object. This painting does not do away with shadows nor greatly reduce reflection.

**DRAPE...** A fish net that is simply draped over an object with all four sides pegged to the ground. It is propped up with poles in such a manner as to clear what is beneath and thus does not reveal the form. Only the irregular shadow of the net itself falls on the ground. The net is usually pre-garnished and can be rapidly erected for hasty concealment.



**DUMMY...** A fake object or installation used to hide a military object. For example, a real gun in a dummy house, or a pillbox in a dummy haystack. Also dummy military objects may be constructed and used as decoys as would be the case with dummy wooden guns in a fake artillery position, or dummy planes on an airfield runway.



**FIELD EXPEDIENT...** A makeshift method developed in the field for getting a job done without elaborate tools and equipment. Improvised dipping vats, wringers, and drying racks for painting quantities of cloth; a lattice-work of poles or canes instead of a net for a flattop; use of vines and strips of bark for tying; all of these are field expedients.



**FISH NET...** Knotted cord net, the same as fishermen use. It has no concealment value in itself but is used as a supporting surface for other materials called garnish. When these materials are in, it is called a garnished net. This is the standard net in the theatre of operations. It is very flexible, can be easily packed, transported, and erected.

**FLATTOP...** A garnished net stretched on a frame of 10 gauge wire which is supported on poles at the four corners. It is always stretched horizontally over an installation, hence its name. Unless this net is very skillfully garnished and erected it has a tendency to cast its own shadow on the ground. It is most successful under trees.



**FOX HOLE...** Any pit dug in the ground and used to protect one or two men from flying splinters and grazing fire. Fox holes also permit men to present the smallest possible target to direct fire while themselves firing on the enemy. They are vulnerable to oblique fire and overhead observation. This is the reason they should be camouflaged.

**GARLAND...** A strip of cloth two inches wide by about five feet long. It is dyed or painted one of the standard camouflage colors and woven into the mesh of a net. The purpose is, to let some of the light go through the open meshes and strike the ground or the object beneath, while the garlands stop some of the light and create a mottled shadow effect.



**GARNISH...** Any material, either natural or artificial which is added to a net for camouflage purposes. It may be woven in, tied on, or glued on with an adhesive. A net so treated is then called a garnished net. Any net such as a drape net which is transported with a permanent set of garlands in it, is called a pre-garnished net.



**HEAD NET...** A net measuring four by five feet and worn draped over the helmet. It hangs down loosely over the shoulders and breaks up the familiar head-and-shoulder outline. It is used to support garnish of weeds, grass, or twigs; also, it may be of such small mesh that it has concealment value without garnish. In such a case it is called a visinet.



**OBSERVATION • DIRECT...** Observation of an installation or an object by looking directly at it. This can be accomplished by flying overhead in a plane and looking down or by gaining a vantage point and looking through binoculars. Information gained in this manner must be relayed by means of sketches, maps, or verbal description.



**OBSERVATION • INDIRECT...** Observation of an object or an installation by analyzing a photograph of it. The photographs are taken from an observation plane and much more accurate and detailed information can be obtained. Camouflage works should be designed to baffle the aerial photographer. If it fools the camera it will fool the naked eye.



**OZNABURG...** A cheap cotton cloth of canvas-like weave. It, and burlap are used extensively in camouflage work. Oznaburg comes in plain white, or dyed any of the standard camouflage colors. It is issued in bolts 42 inches by 250 yards, and also as garlands 2 inches wide wound in rolls of various lengths. It is painted by brushing, spraying, or dipping.



**REVTMENT...** A retaining wall or facing for maintaining earth slopes at a steeper angle than their natural angle of repose. Whenever revetments extend above the natural surface of the terrain as they do in dispersal pens and parapets, they add to the camouflage problem. The camoufleur then, tries to avoid constructing such revetments whenever possible.



**SHRIMP NET...** A net with a small mesh used by fishermen to seine shrimp. It makes a very good helmet net or head net because you may fix the garnish more firmly in the small mesh. However, shrimp net has no concealment value in itself and its small mesh prohibits the weaving in of garlands. So it can only be garnished with weeds and twigs.



**SIMULATION...** Feigning, or making an object appear to be something else. Artificial camouflage materials can be so arranged and installed that they appear to be nature. Thus we can cover military installations or gear with artificial nets and garnish and cause the whole to blend into the surrounding terrain by simulating nature.



**SPIDER TRAP...** A one-man, standing type fox hole with a lid or cover which fits like a trap door. It is named after the trap door spider which constructs such a lid for its nest. The top side of the lid is covered with natural material, usually grass, and blended into the surrounding terrain. It is used mainly in an ambush.



**SPOIL...** Dirt or rocks which are taken from any hole you may dig. It must be carefully concealed. It is usually carried away and scattered under bushes or it may be made into a mound and sodded over. Failure to conceal spoil is one of the commonest errors which troops commit when constructing military emplacements.



**TERRAIN...** The military term used in describing the ground or landscape. Outstanding landmarks such as a hill, a grove of trees, a stream, or a village, are called TERRAIN FEATURES. Taken all together they form a TERRAIN PATTERN. It is this pattern which we try to avoid altering and which we restore by simulation, with camouflage.



**TEXTURE...** The degree of roughness or smoothness of a surface. A smooth surface like a concrete road reflects all the light which strikes it, while a rough surface like a field of tall grass absorbs light. This difference stands out boldly on an aerial photograph. Hence it is essential that with camouflage we simulate the texture of the terrain we are in.



**TRACKS...** Marks or scars made on the terrain by anything traveling over it. Tracks may be grass smashed down flat, bushes broken off, or simply ground packed down tighter than it was before. This usually happens when a heavy object is rolled or dragged over the ground. When tracks cannot be concealed they are so arranged as to deceive the enemy.

★ (Continued from page 9) to conceal an object or installation must approximate the texture of the terrain.

**PHOTOGRAPHIC FILM...** Three types of photographic film are commonly used in aerial photography. Each one has its own individual nuisance value. Familiarity and respect for the distinctive characteristics of each are essential to good camouflage. Otherwise, like the proverbial boogie-man, one or the other will get you if you don't watch out.

These three films are known respectively as panchromatic, color, and infra-red.

**Panchromatic...** This is the film most commonly used. It is the familiar black and white variety which registers objects in tones of gray.

By the aid of "filters" which can be attached to the lens of a camera, many colors in the terrain which usually register "off tone" can be controlled and corrected to approximately their true tonal value. For instance, a blue sky that otherwise would photograph white can, by the employment of a yellow filter, be "held" to register in its natural tone of gray. Again, the texture of heavy, green foliage more commonly results in a darker registration than is apparent to the naked eye. The use of a yellow-green filter will correct this fault to some extent, softening the shadows and permitting the lens to "see into" these shadows and register in depth. The significance of this fact must not be overlooked when it is the intention to conceal an installation with the help of what may *appear* to be deep shadow.

Because of the absence of texture on its surface, a black asphalt road looks, and photographs light gray from the air; furthermore, if the camera were facing toward the sun, it would actually register white on the film.

The image of your position, clearly recorded on panchromatic film will instantly disclose the telltale outlines of any undisguised, man-made forms or their distinctive shadows. It will also reveal any discrepancies between the tone or texture of an artificially concealed object and its immediate, natural surroundings.

**Color...** This is the film on which objects are registered in more or less their natural colors.

Actually, worthwhile results can only be obtained from color film at medium or low altitudes. At any height over eight thousand feet, the film rapidly loses effectiveness, due to the steady increase of atmospheric haze which neutralizes individual colors and imparts an unrealistic, over-all bluish tone to the image.

The purpose of color film is to complement the panchromatic. A comparative study between the two, color on the one hand and tone on the other, can then be effected. This method of comparison will often prove to be the demarcation line between the success or failure to identify any suspected camouflaged installation.

For instance, the color of two adjacent and apparently identical types of foliage may register on the color film in exactly the same value of green, but their corresponding black and white tonal values on the panchromatic image prove to be widely dissimilar; the position would then immediately become an object of grave suspicion to the enemy. It would be due for a further and more thorough investigation.

One of the vital requirements in successful aerial reconnaissance is speed and immediate delivery of any photographic material to headquarters. The drawback to the use of color film is the difficulty and time involved in processing the negative. For this reason, it can be taken for granted that color photography will not be actively employed to any appreciable extent in a combat zone that is distant from a main base of supply. It is doubtful if the Japanese are using it at all.

**Infra-Red...** This is another type of black and white film, but the tones register with a distinctly different emphasis than on panchromatic negative.

Infra-red film possesses the necessary properties to enable it to pick up the reflection of infra-red rays. Objects which have the property of reflecting these rays will register on this film in lighter tones than on panchromatic film. Objects which do not have this property will register in darker tones.

Green grass, trees, and foliage reflect the infra-red rays and register white. Blue sky does not reflect the rays and registers black. But when green vegetation is cut, it loses its infra-red reflecting properties as soon as it wilts. If such material is allowed to remain in a camouflaged position that is surrounded by live foliage, it will stand out like the proverbial sore thumb on an infra-red photograph. Unless the cut foliage is replaced when it wilts, it will be a dead give-away.

The usefulness of infra-red film lies in the fact that it will penetrate haze, and will register camouflage materials either natural or artificial which do not reflect these rays, in distinct contrast to surrounding materials that do.

Special paints, in a good range of camouflage colors and with infra-red reflecting properties are now being supplied for painting camouflage materials.





# INDIVIDUAL CONCEALMENT



**Stain from Leaf Juice...** Squeeze a handful of leaves until they give up their juice. Use this as a stain for the entire face, ears, neck and the backs of the hands.



## MAKE-UP

There are two reasons for using face make-up in camouflaging a rifleman and neither one is to make the enemy laugh himself to death. There is a purpose in using the paint and there is an exact reason for the way it is put on. There is no place for any half-hearted or haphazard smearing, nor for any comical clown make-ups.

Our faces and hands are light orange-colored. They reflect a great deal of light and we are usually forced to show them to get a shot at the enemy. We use paint then to tone them down. This is the primary purpose and it is done for the same reason that the raiders blacken their faces for night maneuvers. We use color because color can be easily seen in the sunlight and thus we can cause ourselves to blend with the surroundings and fool the enemy.

When the face and hands have been coated solidly with this toning color (usually green because we ordinarily take cover in green vegetation) we can go further by painting several dark streaks across, something like the picture above. These, by crossing the eye, the nose, the mouth, seem to blot out the

**Mud on the High Spots...** Mix some mud, as dark as possible. Put a smear of this on the chin, lips, nose, each cheek bone, forehead, and knuckles.







**G.I. Face Cream...** Choose the right color for the position you are going into. It will usually be green. Put it on smoothly all over the face and hands.



**Breaking Up Shape of Face...** Streak the black across the face; taking in an eye; the nose, and corner of the mouth. Cut across the other eye and down cheek.



features. This is exactly what we want because it is by recognition of the features that we distinguish a face as a face. Also, the dark streaks will tend to break up the oval shape of the face into several smaller, irregularly shaped patches of color much the way the shadow of a branch falling on a melon causes the eye to be attracted to the sunlight spots and not to the whole melon. This is why we call it the Shape-Breaking pattern. ✓

The G. I. make-up consists of the Kit, Camouflage Cream. It is pocket size and contains five one-ounce tubes of paint which look, smell and even taste a good deal like cold cream. This paste is non-poisonous, greasy enough to stay on even when the wearer is swimming, and loaded with an insect repellent which should make it very discouraging for mosquitoes and bugs of all sorts. The colors are: light green, sand, earth brown, and black. They may be combined to fit any situation a Marine might find himself in.

In the event the camouflage cream is not available a substitute can be found using the materials which are near at hand. Many leaves on being crushed will yield a stain of yellow-green. Mud will dry the color of the dirt from which it was made. Dirty oil or grease wiped off a cold engine will serve for black. Dirty? Sure! but nobody is going to make you wash behind your ears in the jungle.



**WRONG...** The Mammy-Singer pattern. Result of being afraid to get paint near eyes and mouth. Two circled eyes and a mouth spell MAN.



**WRONG...** The Measles pattern. Just little spots of color stabbed into another color. Does no good at all; this is war, not a circus.



**WRONG...** The Artistic pattern. Both sides exactly alike; a common fault. Interesting to look at which is exactly what we don't want.



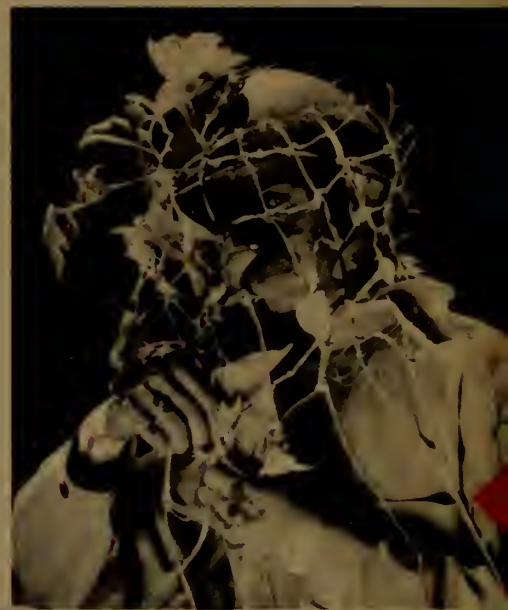
**RIGHT...** The Shape-Breaking pattern. Dark streaks break the face into several odd-shaped patterns which get lost in the leaves or bushes.



# KEEP YOUR HEAD...



**Nets of Bark...** Make a small net of strips of bark. It will have no great strength but will do for a head net. Simply tie narrow, flexible strips together in a series of squares, splicing just anywhere. Make the pattern very irregular; don't even attempt to be neat. Get your bark from withes, saplings, or the tender green ends of branches. Willow is excellent material. Tie this apron to your helmet. Experiment, and don't be discouraged if you find yourself barking up the wrong tree.

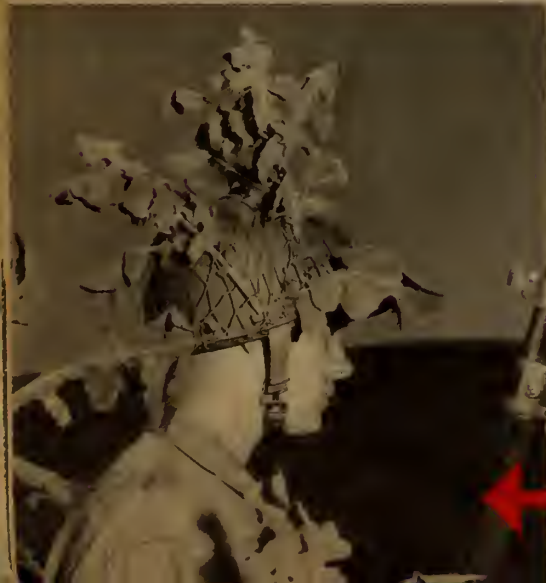


**Weaving...** Detailed instructions for the weaving and repair of nets may be found in the TM 5-268, "Repair of Fish-nets." You will find that weaving is quite simple; any fisherman can do it. But it is very tedious and only head nets and body nets should be attempted. Use only a light tough cord and stain with mud or paint. Practice so you can repair the nets when they are torn.



## Head and Shoulder Net...

This one is first on the list for the well-dressed Marine. It breaks up that old familiar head and shoulder target by slanting from the top of the helmet out to the shoulders. Garnish it well and don't get tangled up in it. It will do double duty by covering your fox hole; but have it with you! It won't do you any good if you leave it back at camp!



**Helmet Net...** The helmet net should become a standard part of your equipment. Drape net over helmet, tuck ends inside, and push liner in tight. This will hold it in place. A small mesh net will add some texture to the smooth helmet but it is primarily intended to support garnish picked on the spot. Weaving the net might help to pass those long hours on the transport.





# .... AND BODY TOO!!

**Garnishing...** Nets furnish a supporting surface for garnish of some sort. Fasten your bark net around your helmet so that it covers the helmet and hangs down in front of the face like a sort of mask. Now fasten in some twigs from bushes and trees, some weeds from the field, etc. . . Use whatever is growing in the spot you are going into. Fasten it in good. Imagine how you will lose face if you raise up and your camouflage all comes tumbling off your helmet.



**Helmet Cover . . .** So they didn't issue you a helmet cover! Make your own. Cut two flat pieces of burlap or oznaburg. Cut them the shape of the helmet but larger. Sew them together around the top side. No needle and thread? Poke a row of holes with a sharp stick and lace them together. Paint or stain the same as for a suit. Make a double row of holes around the sides so you can fasten the garnish in. To break shape? Place small twigs between helmet and cover.

## HOW TO MAKE A SNIPER SUIT

Spread some oznaburg, some burlap, or the chief's wife's sarong out on the ground. Place your dungarees on the cloth for a pattern, buttoned up, sleeves spread out wide. Cut around the dungarees with a sharp knife. Cut about an inch larger all around. Cut a piece for the front and a piece for the back, both blouse and pants. Never mind the collar, cut straight across the shoulders at the collar line. Now sew them up but leave the ends of the sleeves and the ends of the legs open. Leave a hole at the neck for the head and don't sew up the tops of the pants. Make some holes around the pants top and run a draw string through. Now try the suit on. It will be tight in the seat but no one will care at all. Everywhere else it will be loose. Take tucks all over it. Smear splotches of paint all over it. If you look like a walking rag-bag . . . wonderful!





# DON'T BE A TARGET!

Here you are faced with the problem of how to be a man and yet not look like one. The enemy, if he sees you at all, has to make up his mind on two points: First, are you a man? Second, are you an enemy? The wily Japs have pulled about every trick in the bag, from speaking English to wearing Marine's clothes, in an effort to pass as brother Marines. This is camouflage all right! It is deception, and, while we may not use the trick as much as they do, it is a handy little weapon if you are trying to sneak between a couple of sentries or to cause a patrol to hesitate about opening fire on you. There can be many cases in which the last thing on earth you would want to do would be to fire your own weapon. Some sort of ruse, or deception then, might be the thing which would get you by. But whatever you might do or say in such a situation you will have a better chance to get away with it if you are not clearly seen, or if it is hard to make up the mind as to just who you are or what you are. It almost goes without saying that this is doubly true if you are advancing on the enemy as a skirmisher, from cover to cover, or waiting in position for him to come within range.

Nature has provided many of the animals with what we call protective coloring. That is, the animal is protected to some degree against discovery by being the same color as the terrain in which it lives. But it even goes further than this for nature is very wise. Many animals have a bold pattern of strongly contrasting colors on their hides. Take the case of the hunting tiger; he has a very



**Sniper Suits...** In some cases pre-garnished sniper suits may be taken along by Marines. The suits are made as shapeless as possible, painted a splotched pattern with a green color predominating, and garnished with artificial material. This may be bunches of garlands sewed on or hemp rope shredded until it looks something like hair.



# Break up your outline—and **LIVE!...**

prominent pattern of yellow and black stripes in sharp contrast. This is not for the purpose of making him look beautiful in the circus, but to render him almost invisible when he is lurking in the grasses of his jungles. The black stripes mingle with the shadows cast by the leaves of the grass and it is because you do see them that you don't see the tiger as long as it holds still. The eye is attracted away from the outline, the shape by which we know it is a tiger, to the stripes which are so bold. Many a hunter has realized as a tiger charged or broke from very near that it was in plain sight all the time but simply wasn't recognized.

You can achieve the same result by painting a "shape-breaking" pattern on your sniper suit, your dungarees, helmet, rifle, in fact on all your battle gear. It does not necessarily have to be crooked stripes, it is even better in large splotches of color. Look at the nearest hillside covered with bush. Concentrate as an artist would, not so much on what you know as on what you see. Notice that you do not really see each individual weed or bush as a separate object but as blending into the next one to form a very irregular pattern of shade and colors. A man standing against this background dressed in say, a white suit, would stand out very sharply and be easily recognized. But a man dressed in a suit which is close to the basic, or dominant color of the landscape, and splotched with black for the shadows and one or two of the lighter colors almost disappears. This is especially true if the suit is

shapeless and ragged, or has some sort of texture added. The splotches needn't be any particular shape, just irregular.

Remember that you are always seen against a background of some kind. If you are battle-wise you will make this be the most broken background you can find. In other words, the more jumbled up or irregular the background is and the more broken your outline is, the better chance you have of being overlooked. When you crouch down in the bush with some of the limbs crossing in front of you each one breaks your outline, the familiar outline of a man, into that many smaller parts. These, if the right color, tend to merge with the other irregular shapes behind you and blend you right into your background. This is the reason for selecting your spot carefully; fit yourself into it.

But in many cases you are forced to conceal yourself in cover that is all too sparse. Here is where you help nature along, for, in addition to the paint pattern on your face and clothes, you add some texture which will really break your outline; make it look rough and tattered like the bush. You can use natural or artificial materials or both. Tie some leaves or grass to yourself, especially around the head and shoulders: the target line. Build yourself a screen of brush if you have time but remember to keep a clear field of fire. Or have some cloth or rope texture sewed to your clothes for a more permanent job. You can fool the Japs all right, but remember the most important rule: if you are under observation **DON'T MOVE!**



**With and Without...** How many men do you see in this picture? There are two. Both are in a firing position. One has his heels sticking up and has not bothered to reach down and cover his feet with grass or weeds. He is in sparse cover and has not added to it by tying some of the weeds onto himself as the other has done. He has made no attempt to get his rifle behind

natural cover; his choice of position was poor here since both men are firing on the same target. What a whale of a difference just a few feet make! His head is raised higher than is necessary thus allowing the dark shadow under the helmet to show. The camouflaged sniper has only a little camouflage, otherwise you wouldn't be able to see him at all.



# Ten ways to keep from getting **KILLED**

**1** Leave yourself a way out. Bears hibernate in caves; Marines don't. If the enemy gets the cave entrance covered you're a gone gosling. Japs tie themselves in trees to make sure they will never have to go back to Tokio. We want to get to Tokio, and how! It's no disgrace at all to slip out of a position if you just slip into another and safer one. No position is safe from a concealment angle after you have fired from it while under observation. You will want to leave it. Don't find out too late that you have to go down with the ship just because you have let what looked like a good spot turn into a trap.

**2** Ol' Bill, famous cartoon character of World War I, came crawling back to his trench long after he had been given up as lost. His friend, Little Alf, rushed up to him and cried, "Thank God, Bill, you're safe! We thought you was a goner!" Bill replied, "Gone? Hell, there wasn't no place to go!"

Never rush out of a position and find yourself in the open with no place to go. Have an alternate position in mind and plan how you are going to use it, how your shape will fit into it. Don't always think in terms of getting behind something. Sometimes you are a lot safer in front of a bush than behind a rock.

**3** Keep still! Don't move! Be as lazy as you were back in camp. This is the spot where being nonchalant

pays dividends. Remember the enemy has a lot to look at and plenty to worry about. Make him worry more. Don't attract his attention by moving around and making noise. Have confidence in the cover you have taken and the concealment you have arranged. You played this game for fun when you were a kid; you're playing it for keeps now. Don't get yourself tagged out.

**4** The rabbit has the instinct to take cover, remain motionless, and trust to his protective coloring. But he hasn't any brains. He will bolt into the only patch of brush in the landscape and be just exactly where you expect him to be. Be a man, not a rabbit. Stay away from conspicuous landmarks or obvious hiding places. The enemy will be giving them plenty of attention. He will figure you are dumb enough to be there. But you won't; you'll be in one of a great many possible places which all look alike, not in the only one of its kind. Maybe you always wanted to send home a picture of yourself posing beside the native hut, but this is not the time to get it.

**5** Don't fire! Don't fire! Until you have the Jap where you want him. He thinks that you're a stupid, careless, city man who doesn't know how to play his jungle game. He thinks he can trick you into firing, scare you into firing, or even talk you into firing and giving away your position. The last thing in the world he wants





is to come out and meet you man to man. But when he does, he'll be plenty tough. All right! If that's the way he wants to play he can have it. Move in on him quietly, wait him out, lure him out. Make him show himself, and when he does, as Charlie McCarthy would say, "Mow him down."

**6** No matter how you may have loved to be in the limelight before, here is where we really avoid it. If caught in the open at night by any sudden light, a flare, a shellburst, or even a flash of lightning, freeze until the light is gone. Then leave that spot like a ruptured duck and your chances on a ripe old age will be greatly enhanced.

Avoid moving, or even standing against a lighted background. Remember that even if you are in a shadow you can be seen as a black shape if there is a lighted space beyond the shadow. Moonlight is often harder to operate in than sunlight because sunlight is so brilliant that it dazzles.

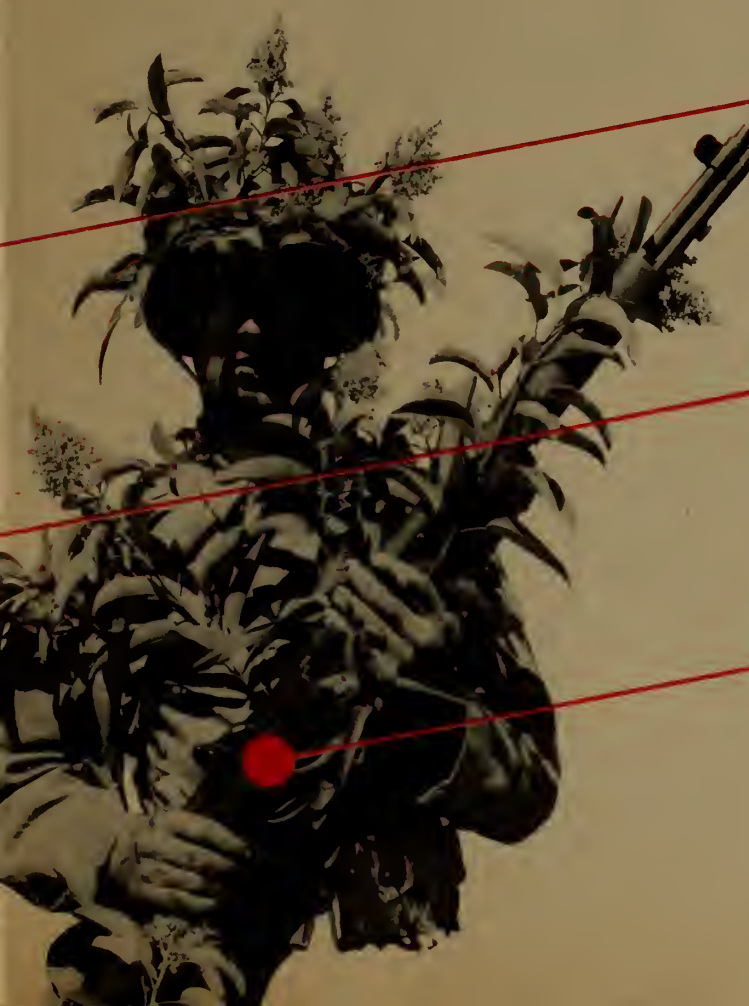
**7** Move when something is happening. Creep through a field of tall grass when the wind is blowing. Make a dash for your next position right after a shellburst. Move before the dust has even settled. Noises are the enemy of movement at night. Try to anticipate noises and move with them. Take advantage of any confusion; a storm is a wonderful thing to get around in without being detected, a stiff wind, even a gentle rain, may cover your movements and the sounds you make.

**8** Travel along already existing ground lines, especially when there is danger of aerial observation. Follow fences, hedges, drainage lines, watercourses, etc. Stay under

the trees whenever possible. It may be true that the longest way 'round is the shortest way home in this case. If there is ground observation and you know the general direction of the enemy keep some sort of natural cover before you. Creep, or snake through open spaces very carefully. On dark nights, always travel in the most open fields. This will avoid the noise you would make in cover.

**9** Know your pre-arranged signals well. You must take every precaution to keep from firing on friendly troops. Likewise you do not want them to fire on you. This is done far too often. One outfit was forced to give up its helmet nets because other troops insisted on firing at every helmet with a net on it. In cases where camouflage seems to work against you because of failure to recognize signals, special recognition signals can be devised. They are usually small sounds like snapping a stick, scratching on a button, or running the thumb on the teeth of a comb. In more extreme cases the firing of a known number of shots might do the trick. The Japs use bird calls and, on Attu, were observed to be blowing weird notes on bamboo flutes.

**10** If you find an abandoned position, conceal yourself in it and then mortar shells fall in your lap, let that be a lesson to you. The Japs have got the range, they had it all the time and you walked right into it. Always be suspicious of a spot the enemy has left so conveniently for you. And don't get in the habit of being machine gun conscious, believing that every defiladed position is secure. Mortars are mighty hard things to get at, so here again, changing position often and trusting to concealment rather than protection is a mighty good bet.



**WRONG** Putting a little natural garnish on a helmet is a very small camouflage job as camouflage jobs go but all the camouflage principles apply to it just the same. Once this installation is created it must be maintained. Proper choice of materials is important. Never choose foliage which will wilt within a few minutes after you put it on. Ferns are famous for this, so don't use ferns. Choose the most durable looking plants that grow in the position you are going into. But the most important thing is to change them often.

**WRONG** There is always the man who believes that if a small piece of foliage on his helmet is good, a piece two times as big is twice as good. Nothing could be a bigger mistake. Keep away from long, slender stems which wave and tremble like a jitterbug dancer every time you make a slight move. Remember that your head moves slightly even when you breathe. A little bit of weed or brush swaying in a most unnatural manner is a sure bet to attract the enemy's attention. Also, long stemmed foliage is harder to keep fastened on.

**RIGHT** Just enough to break up the shape of the helmet and to disguise the tell-tale head and shoulder target which you almost always show when firing the rifle. Sturdy, fairly thick stems which do not bend and sway. Selected to last as long as possible without wilting. Firmly attached so they will not fall off or be brushed off and yet in such a way that they can be easily changed. Remember to change it often just to be on the safe side and remember to change it entirely if you move to a position where another type grows.



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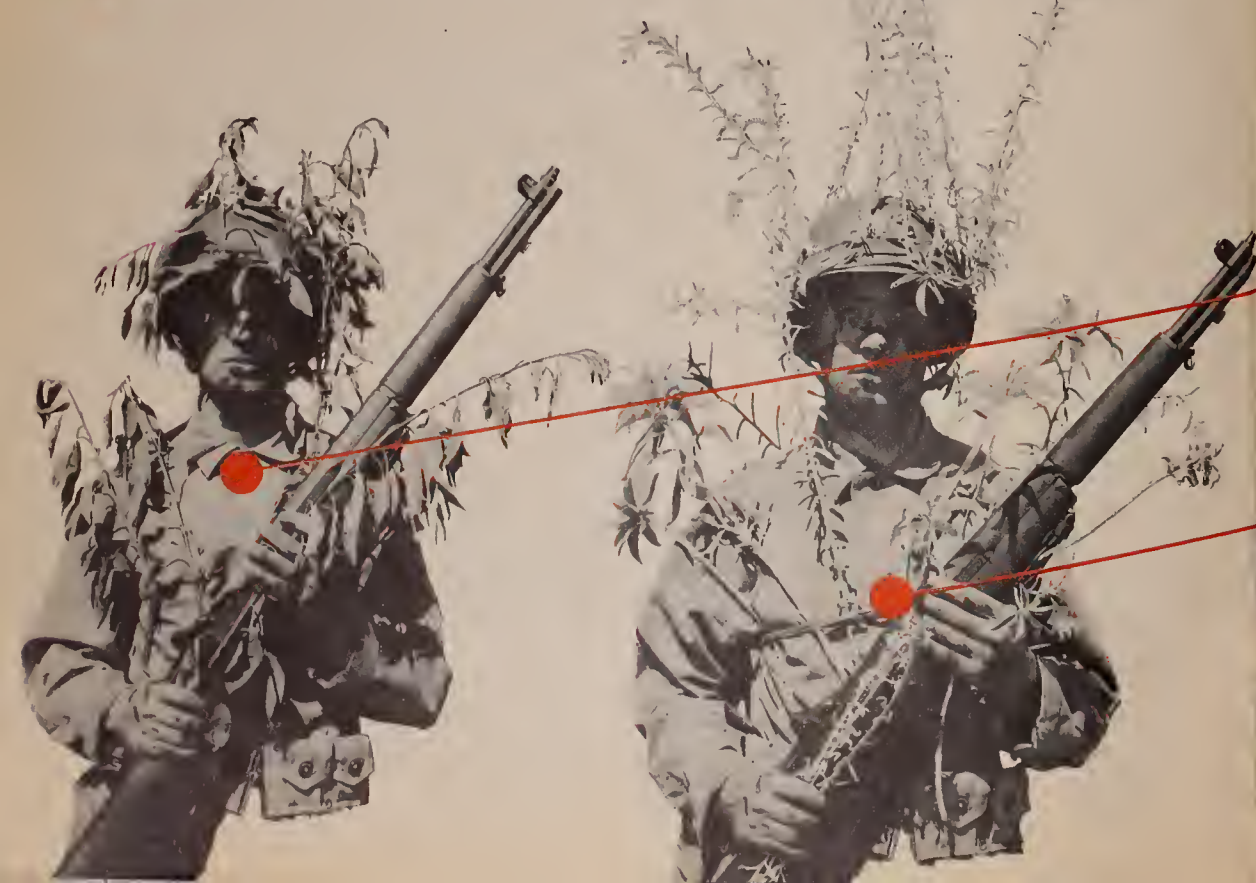
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**SPOIL...** A hole is a thing that the more you take away from it the bigger it gets. With the spoil (dirt) from a fox hole or a spider trap be sure that you do take it away. Put your poncho, shelter half, or even your dungaree blouse on the ground, shovel the spoil carefully into it and then carry it away and conceal it.

**LID...** Bend a flexible stick into a hoop and lash it fast. Strips of bark will do to tie with. Then fasten on some criss-cross sticks in a lattice-work arrangement. Weaving them over and under each other is a good stunt. Use this frame as a support for a piece of cloth or sheets of bark and cover all with sod.



**SPIDER TRAPS** Spider traps are simply standing type fox holes equipped with a removable lid. They are named for the trap-door spider which builds such a lid for its nest. Make your lid a little larger than the hole so it won't come tumbling down on your head. Cut a ledge around the top of the pit so the lid will fit down level with the ground when it is closed. Sod is the stuff most often used to texture the lid. Be sure and fasten it on with pins made of twigs so that it will not fall off when the lid is raised. You can have a small stick inside for a prop or you can slide the top to one side.

You may have a long wait in a spider trap so dig the pit large enough so that you are not cramped. Remember you have to take your weapons inside with you. Cut a seat in one wall so that you can sit down. You can also use this seat to step up on in case you want to leave the hole in a big hurry. Be very careful of the ground around your pit and remember that you are not through with the job when you have put on the lid. Fix up all the tracks you may have made even if you have to move in some sod. Your spider trap should be so well concealed that the enemy can pass within a foot or two of it and when you open up on him you do it at point blank range. Don't be afraid to dig it near a trail. A scout generally looks beyond his pathway.









**SKIRMISHER'S TRENCH...** Just long enough and deep enough to lie in full length. It will protect you from flying splinters and grazing fire. Usually dug under fire, the spoil is piled up in front for a parapet. Dig it under cover of bushes or weeds and cover the spoil if possible.



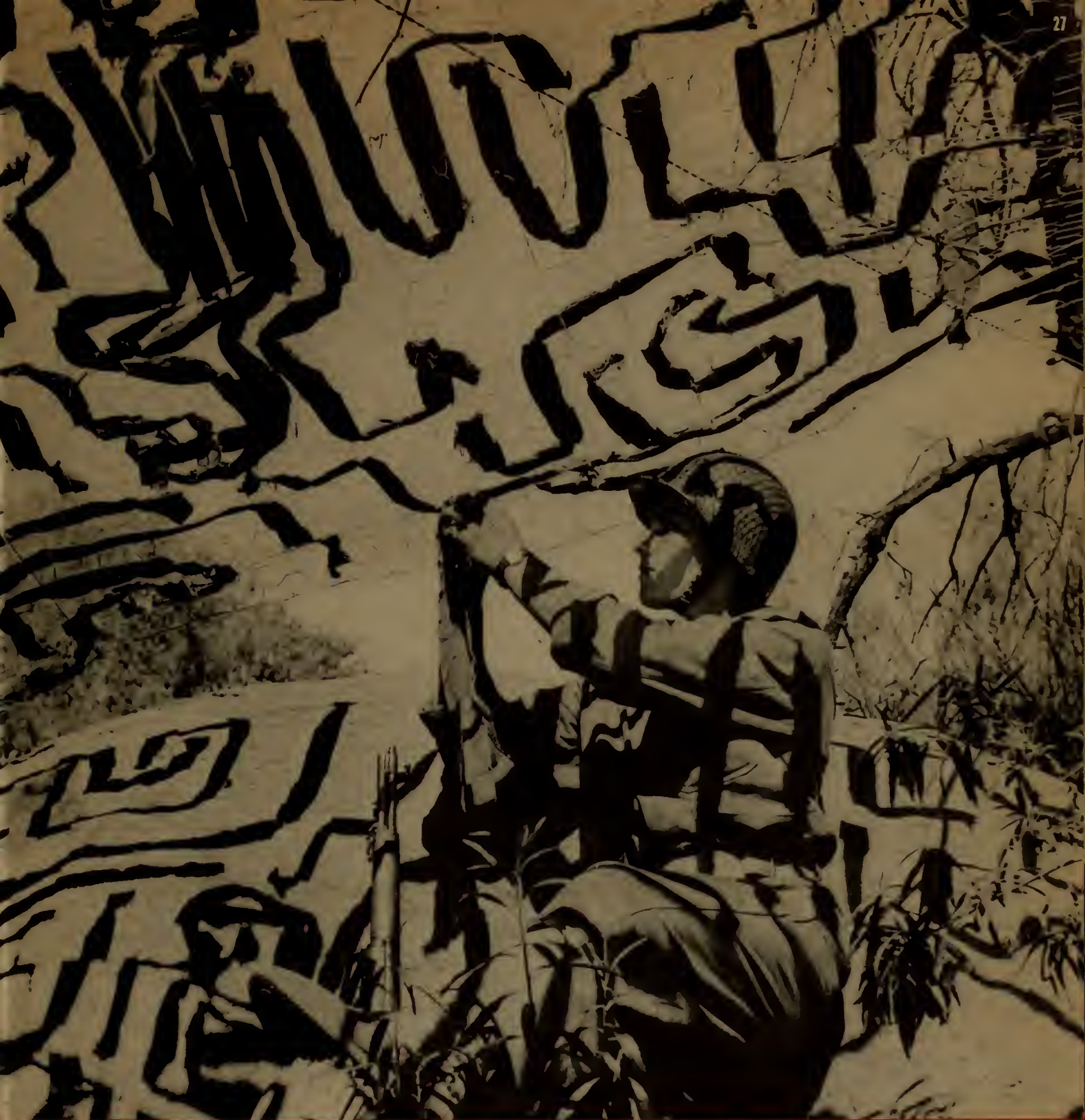
**ONE MAN FOX HOLE...** Deep enough to stand in with elbow rest on the ground and spoil in a circle as a parapet. Spread something over the spoil for texture. Choose the spot so that the shadows of bushes will fall on you but be sure that you can see under them and FIRE under them.

**TWO MAN FOX HOLE...** Firing step at each end. One man observes and fires while the other rests. Make full use of natural cover and conceal the fresh dirt of the parapet. You can spread a net over any of these fox holes but be sure you can see through it and fire from under it.

**CROSS SLIT TRENCH...** You can lie down full length and get some rest in this one and you can retreat around the corner if someone tosses in a hand grenade. The same bits of concealment work here as on the others. But beware of getting in cover too heavy. You must have a clear field of fire.







FLATTOPS ★ DRAPE NETS





## NETS REASON FOR GARLANDS . . . . .

Be sure you understand that a net by itself has no concealment value. Too many outfits are using nets with no garnishing of any sort just because they were told to use nets. A net is simply a supporting surface for garnish of some kind or other. There is a tendency in some places to use very close-weave nets, or even scrim. The fact that you can see through them from underneath, yet the enemy cannot see you gave them the general name, "visinets." However, the enemy can see the net, that is the trouble. It is true that you can stand in a room and see into the street through the window-curtains, while from the street you cannot see into the room. But you can see the curtains!

Our game is to use the large-mesh fishnets and to weave in our garlands so that some of the light is stopped by the garlands and some goes through to the object beneath and the ground around it. This creates a mottled pattern of light and dark which has the characteristics of nature and, if well done, should pass for nature.

**COLOR...** The color of the garlands to be used will depend on the color of the terrain. The nine standard camouflage colors will cover any situation. Usually only two or three will be necessary. Weave them in patches with a dark color for shadow.

**PATTERN...** Spread the net out on the ground and work on it by crawling around on it on your hands and knees. Weave the garlands over and under the mesh, skipping about every three cords, turn square corners; don't weave diagonally or in curves. This might be called the "willy-nilly" pattern; don't use it. Simply weave in horizontal stripes for desert terrain and in a pattern called the letter U and Greek key for bushy terrain. The Greek key is nothing more than an expanding square which grows larger each time you work around it. By means of these patterns you save garlands and you can control both the density of the garnish and the size of the color areas. This you do by counting squares in the mesh. Tie the ends of the garlands to the cords of the net or leave them hanging.



**CUTTING...** Burlap is most commonly used for garlands. Oznaburg is good if available. Any cloth will do. Paint, or dye it first by dipping. Then roll it in a tight roll and chop it into two-inch sections with a sharp axe. Shake these out into ribbons and cut into five-foot lengths. Your garlands will be two inches by five feet.



## THIN AT EDGES...

Nets must have their garlands thickest at the center which is directly over the object to be covered. They must then gradually thin towards the edges so they will not cast a solid shadow. The gradation is usually ninety percent to ten percent for flattops and seventy to thirty percent for drapes. Make each area very irregular at the edges.





# Make them **work for you**—not against you



**FOLDING... First Step...** If the net is rectangular the crew lines up along the two long sides of it. Men space out evenly and all look to the right following the lead of the man on the right-hand edge. All men are on one knee with both hands on the bound edge of the net. At the signal from the man on the right each lifts and folds a two foot fold towards the center. This is repeated until the two rows of men meet, with two folds of net between them. One rank only, now picks up its fold and lays it on top of the other making one long strip of net in two thick folds.

**Second Step...** One man goes to each end of this strip and begins to roll the net towards the center. When they meet there will be two bundles of net. One is rolled back a bit, then picked up and placed on top the other and the whole is tied with a piece of heavy cord. This is not the way fishermen fold a net. Fishermen stretch their nets; Marines unroll theirs over some object.





# How to erect a FLATTOP

**1** The net, poles, stakes, wire, and tools for its erection. The poles are padded on one end. When the net is used as a drape the padded ends go against the mesh of the net so that the poles will not break through. For a flattop the poles go in holes in the ground. The wire is 10 gauge and 16 gauge. If all the tools are not available you can make out with a shovel, an axe, and a pair of wire cutters.



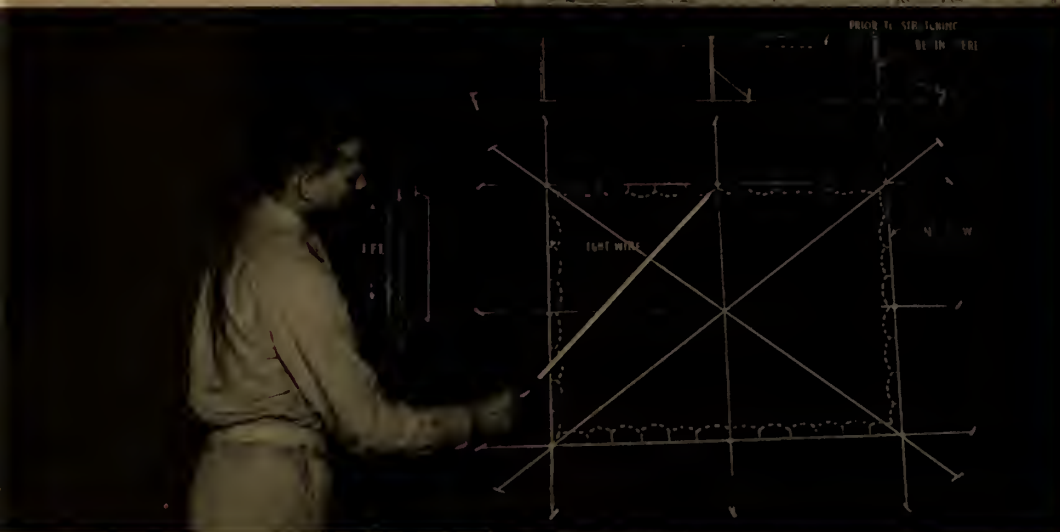
**2** The ground is paced off. Take three foot paces and pace off six feet more than the size of the net. That would be 42 x 50 feet for a 36 x 44 foot net. The crew follows you with the materials and lays down the poles and stakes at the spots you mark with your heel. Two nails are driven into the top of each pole. Drive them until about one inch is sticking up. Drive another in the side just one foot from the top.

**3** Dig holes at the four corners and at the halfway marks on each side. The padded ends of the poles go in the holes. If the ground is too hard or rocky, take the padding off and do not put the poles in holes. If the ground is so sandy, or wet, or soft that the poles might sink beneath the net put a flat rock or a piece of log down for a plate. Use the spoil from the hole for a backfill.





**4** Place the stakes out three feet plus one foot for each foot of height the net is to be. In other words the stakes will be out nine feet or three paces for a net six feet high. Place them on a line made by extending the line which would connect any two poles. Be sure and notch the stakes so the wire will not slip off. Drive them straight down and they'll hold tighter than if driven on a slant.



**5** The diagram shows the manner in which the framework of wire is strung up. The net is wired to the perimeter wire causing it to bow in somewhat. The strain on the net will cause it to run to a little peak at each point where it is fastened. The cross wires and the diagonal wires bear the weight of the net but it is important that it be fastened so tightly that it does not sag over them and cause shadows to be cast.

**6** One length of wire is used to cross every two poles. Start with the diagonal wires. One man holds a pole upright in its hole, another fastens an end of the wire just above the nail, or one foot down from the top. Run the wire to the stake, around it twice and back up and over the nail. Then run to the opposite pole which is held leaning in toward the center. Run over the nail, down to the stake and back to the pole.



**7** Fasten the end of the wire to the second pole as you did the first. Lift the wire off the nails and up to the top of the poles between the two nails there. This will take out all the slack. Straighten up the one pole which is leaning in and the wire will be tight. When all wires are up secure the whole thing by racking the center wires and diagonals. Just put a stick between them and twist.





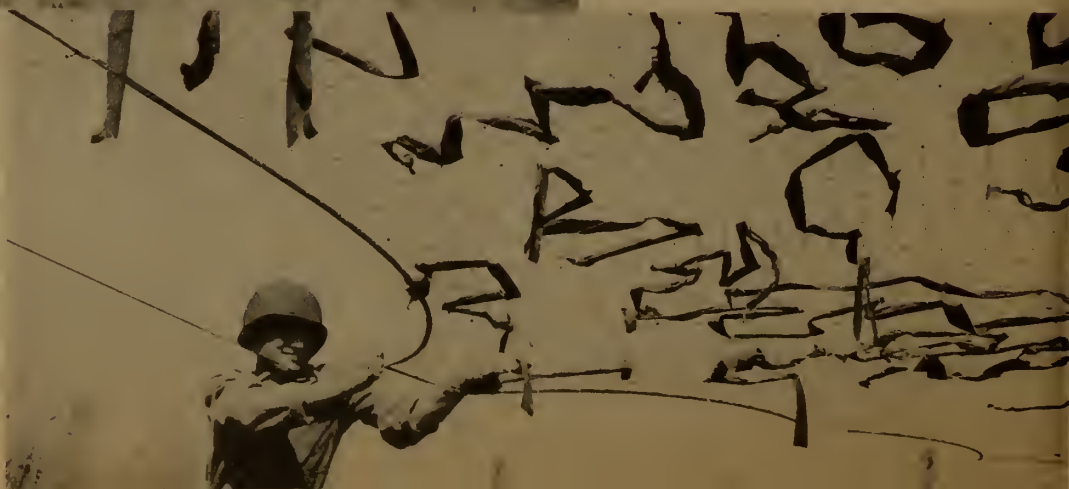
**8** Place the bundle of net on the crossed wires in the center. If it has been folded correctly the exact center of the net will be on the exact center of the wire framework. If it has been garnished correctly the garlands will be thickest in the center, just where they are supposed to be. There is a reason for doing everything just exactly right and this begins to show up as the net is unfolded.

**9** Your wire framework is 42 by 50 feet. Place the net so that it will unfold down the long axis, or the 50 foot direction. Four men will unfold it. They will be going away from each other in twos. One will be on each side of the roll of net and making sure that it does not fall off the single wire on which they are balancing it. When they reach the end each man takes a corner and begins to pull toward the corner poles.



**10** The net should easily unfold sideways by just being pulled at the corners. If it hangs up near the center it is usually because some of the garlands have gotten tangled. A little flip from the men handling the corner should shake it loose. If any more trouble is encountered two men can be working out from the center and can reach up over and untangle anything which gets caught. This is a matter of a few seconds.

**11** Now the four corners can be secured to the nails of the corner poles with pieces of the light wire (16 gauge). Immediately the rest of the crew start working down the sides, fastening the net to the perimeter wire every few feet. This is also done with short lengths of the 16 gauge wire. Make sure that you work on all four sides at once or the net will likely be pulled too far to one side.





# DRAPE NETS...

Drape nets are a form of hasty concealment. They are used when time does not permit, or the nature of the terrain seems to prohibit the use of flattops. They are always cord fishnet; chicken wire is not flexible enough for a drape and permanence is not a consideration anyway. Unless they are of very fine mesh like scrim or even shrimp net, they are pre-garnished, that is, the garlands are not woven in on the spot but the nets are transported with the garlands already in them. For this reason a general, all-purpose color scheme should be employed and dictated by what is known of the terrain where they are to be used. The most effective nets are those which are garnished with several colors; plain green does not seem to be successful regardless of whether the surrounding bush is all green. In which case the net takes on a solid appearance which is to be avoided.

Drape nets are used on all vehicles, tanks, amphibious tractors, engineers' heavy equipment, and small planes. A well-trained crew should install a drape in no more than five minutes and take it down in less. It can be thrown off a gun in a matter of seconds.

The properly-folded net is simply placed on top the object to be covered, unrolled and stretched out over it. It is propped away with four poles so that it does not reveal the shape of the object beneath. Brush or branches can be used in place of the poles. Then the edges of the net are hooked over pegs driven into the ground.

Since the drape reaches clear to the ground it does not cast the square shadow which is common to flattops. The shadows which gather on the net itself as it sags between the poles resemble the irregular shadows of natural growths and are a help instead of a hindrance.

**Garnishing...** Never weave the garlands diagonally across the mesh as they are apt to snap the cord when the net is stretched. When it is in place, stick brush through the mesh or lean branches on until the whole thing begins to look like a growth of underbrush. In getting the brush out take care not to break the cord.



**T-Poles...** Have your poles several feet longer than the height of the object to be draped. Crooked poles will do as well as straight ones. Do not space them regularly as at the four corners of a square. Lash a T-bar to one end of pole to prevent it breaking through cord of the net.

**Raising...** As the net is stretched and pegged by the crew holding to its outside edges, four men will be underneath with the poles to prop it away. Pull tighter here and slack away there to create the most irregular shape possible. Secure the butts of the poles in small holes in the ground.







Dig in! Dig everything in! You may not find any gold in this hole but the idea is to keep the lead out. We can outfight the Japs, outthink the Japs, and we can outdig the Japs if we have to. And don't forget to take the spoil away and conceal it. Also cover up your tracks.



Now all you have to worry about is getting a cover on this pit. Drive a stake at each corner and let it stick up a foot above the ground. Take four 4 by 5 body nets and lash them together. Stretch these and peg down on three sides. Leave the front loose for an embrasure.

## Light Machine Gun Emplacement

The net will hold up leaves, dry grass, forest litter, small bushes and the like. Pull the loose end of net down and hook it over a couple of pegs. You can reach out and tuck it back in a second or two. From a few feet away this spot should look like solid ground.

No nets? They can't stop a Marine! Make a lattice-work of poles or cane like this. Lash it together with vines or strips of bark. Make a flat for the embrasure which can be raised and propped up on two forked sticks. If the material falls through this, thatch it with grass.







★ WEAPONS ★



# The Vanishing Howitzer Trick



1

This is normal terrain. There are no evidences of military occupation. If it was occupied by troops, telltale signs would betray their presence. Some of these are unavoidable. Camouflage, and good discipline can be employed to reduce the majority of them to a minimum. Others can be obliterated entirely.



2

The site has been selected for a 75 mm howitzer position. The gun crew are digging in. They are very careful not to make unnecessary tracks or trample down the grass where it can be avoided. The gun pit is clearly visible. So is the weapon in the background. So are the men and their equipment.



3

The position is completed. Ammunition and slit trenches are in the rear. The gun is ready for action. But, it presents a distinctive and easily recognized target. From any angle above ground level, or on an aerial photograph, it will loom up like a bullseye. It is vulnerable to attack.



The work of camouflage begins. A 36 by 44 garnished net is unrolled lengthwise over the piece and across the pit. The emplacement has been confined to about 40 feet in depth. The net extends well beyond the parapet in front and the ammunition and slit trenches in rear of the position.



5

The net is then spread out. It has been plentifully garnished with strips of oznaburg colored to match the surroundings. Five foot poles cut from saplings, with 18-inch crossbars nailed to the tops, are ready in the pit to drape the net. Short stakes have been prepared to pin the edges to the deck.





The emplacement, the gun and crew have vanished. There are no evidences of tracks, spoil, or other signs of military occupation. The camouflage has been successfully completed. The terrain looks as innocent as before. With tools and a pre-garnished net, the crew accomplished the entire operation in less than an hour.

The front of the net has been rolled up on guy lines of oznaburg strips to the forward poles and secured with ties of the same material. The piece is now ready for action. *These same principles are applied when concealing any weapon or position by means of a draped net garnished with natural or artificial materials.*







Keep the net as low as possible. After staking the edges securely to the deck, prop it up irregularly with five foot poles and crossbars and not too near the piece.

Blend the edges of the net and any exposed spoil into the terrain with tufts of grass, brush or leaves. Throw more over the net to add texture.

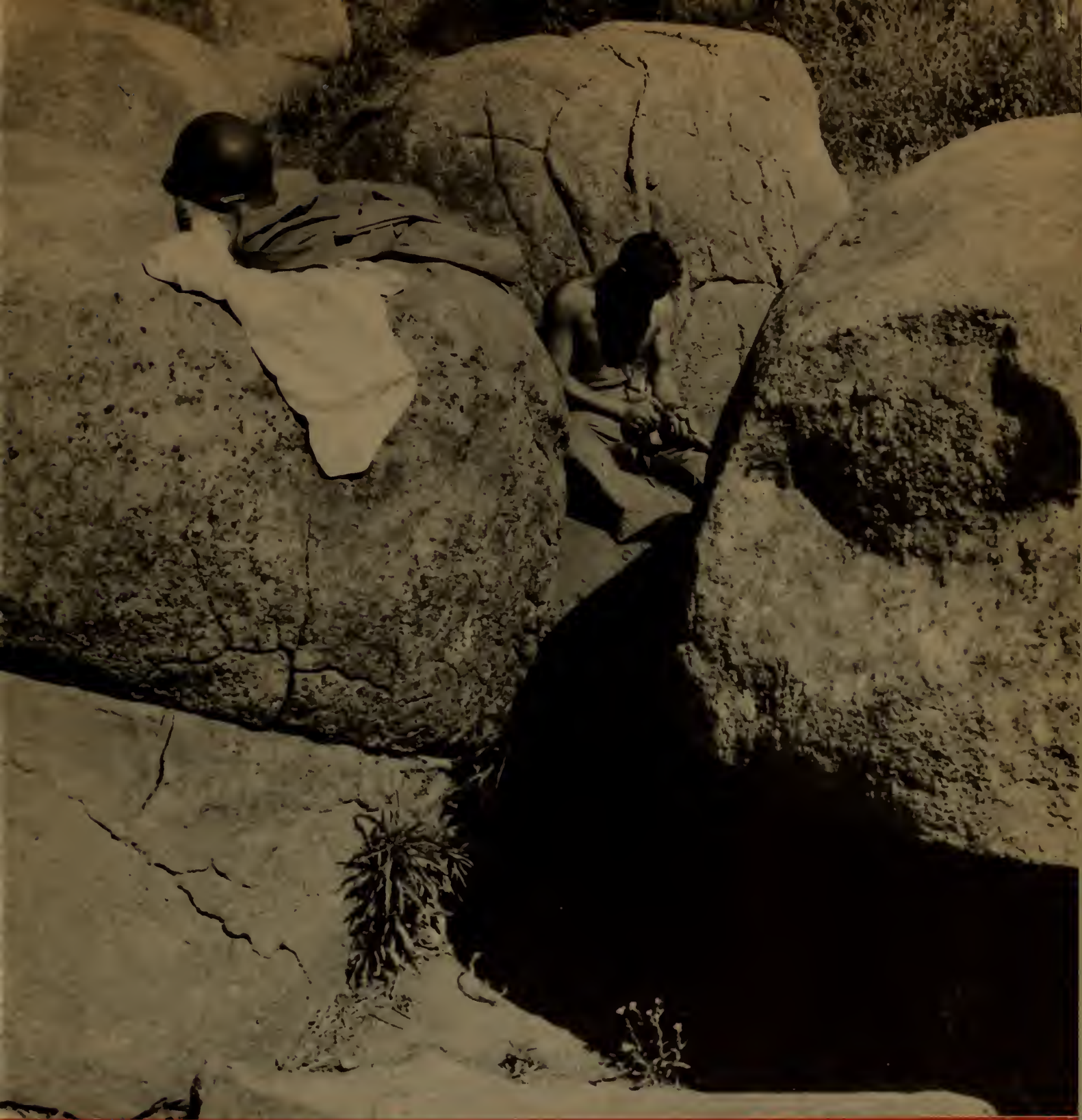


From a distance, cut some limbs or branches that match the foliage in the vicinity of the position. Secure a few clumps to the mesh. When it wilts, change it.

Cover the embrasure guy lines with grass. Tone down the cut edges of the stakes with mud. Tuft up the trampled grass with your hands and add more if necessary.







DISCIPLINE







# WHAT'S THE WORD?



Camouflage discipline is the term applied to methods by which ordinary, common sense precautions are taken

enemy, less worth photographing, less worth attacking, and your intentions will not be disclosed.

**RECONNAISSANCE...** The camouflage problem must be considered on any terrain reconnaissance of unfamiliar territory over which it is the intention to advance, or to occupy with either large or small combat units.

The approach march should be routed to take every possible advantage of the natural concealment afforded by the terrain.

Avoid the skyline. Avoid short cuts across open terrain, thereby reducing any unnecessary evidence of tracks. Stick to the shadows. Route the approach along existing roads or trails. Make use of the folds, or any breaks in the surface of the terrain. Take every precaution to insure that not only the manoeuvre, but any subsequent evidence of the passage of troops is reduced to a minimum. On the march, see that camouflage discipline is enforced.

Whenever taking up a position, a general camouflage "plan" should be drawn up in advance and followed by all hands. Camouflage sentries should be posted to correctly route and disperse men and matériel into a bivouac area, a defensive position, or an assembly point prior to an attack. They should also be not only familiar with but prevent violations of the general camouflage plan and be instructed to enforce camouflage discipline.

The less the terrain is disturbed in the beginning, the less there will be to conceal later. Camouflage should be preventive medicine and not plastic surgery.

**WHAT'S THE WORD?**... Every camouflage job large or small has a plan. It may be a big fine plan all worked out on paper or it may be a little, make-it-up-as-you-go plan whipped together at the last minute. But regardless as to how large or how small the plan everything you know about camouflage: deception, choice of position, proper materials, proper erection of materials, all these things are cooking around in your mind as you make up your plan. If you know your stuff and are not too lazy to apply it, then your camouflage job will be O.K. and it will trick the Japs just the way you want it to. That is, it will, depending on one thing. The men who use your camouflaged installation, who live in it and work in it have got to know what the plan is and they have to stick to it. They have to know that in this particular spot we are camouflaged right up to the hilt and any little thing wrong that one man might do would give the whole thing away. They have to be disciplined to camouflage.



How do we find out what the camouflage plan is so that we can co-operate? We get it in the form of orders. Orders from the Lieutenant, from the non-coms, and from the sentries. The word is passed around. Now the thing to do is to make sure that you get the word. And then pass it along; don't start any scuttlebut, there's too much of that already.

There's a lot of things you want to get the word on. Sometimes it seems like there are too many. But every

to avoid disclosing your position to the enemy. It is achieved by training the individual marine to strictly observe two rules. The first is to prevent every possible change in the normal appearance of the terrain. The second, to properly maintain camouflaged installations.

A well disciplined marine will never be careless about leaving avoidable signs of his presence in or around a position. Nor, having concealed it, would he risk detection by neglecting to keep it in good repair.

Good camouflage discipline of a command may well mean the difference between a mission accomplished or total disaster.

It proved to be an important contributing factor to the defeat of a Japanese landing force at Milne Bay, New Guinea, in 1942. Because of excellent camouflage discipline on the part of the defenders, enemy aerial reconnaissance failed to detect the extent of the military installations or estimate the strength of the Australian holding force. The result was a bellyful of surprise to the Japs. The Aussies, from their expertly concealed and well camouflaged positions, fell upon the invaders, drove them back into the waist deep mud of the mangrove swamps, and wiped them out.

Except for movement, the first evidence an enemy observer has of your presence is a change in the normal appearance of the terrain. The common indications are tracks, vegetation disturbed or cut down, soil displaced, and signs of litter or debris.

If you can respect and follow a few simple rules, the positions you occupy will look less like ground held by troops. They will therefore look less important to the





time you need to know anything about what you are supposed to do or how you are expected to do it, be sure that you find out what is planned in the way of camouflage for that particular thing. Most of the time it is more important when you are not fighting than when you are. You spend about nine-tenths of the time getting ready to fight and only one-tenth of the time actually doing the fighting. And it is during this nine-tenths that you are apt to get careless and do the damage which will let the enemy get the information he wants.

Think of yourself moving with your company into a bivouac area in the Combat Zone. You are going to spend a lot of time there! About the first thing you do is, put up the shelter halves. You think about camouflage as you do this and you do it right. Then you stow your gear OUT OF SIGHT. Then you dig a foxhole close by for air raids. If you are smart you will cover it over with very light sticks and some grass or weeds. This is a CRASH TOP. You jump right on it and take it down in the hole with you. When you get this finished you take up the business of living in this bivouac. What is the first thing you think of? It's very simple and it's always the same:

WHERE DO WE EAT?

HOW DO WE GET THERE?

Is it down a narrow path under the trees or following along a creek when you could just cut across the field? And do they make you go single file and a few at a time when you're starving to death? That's camouflage, Mac.

Where do you want to go next? That's easy too!

WHERE'S THE HEAD?

HOW DO WE GET THERE?

WHERE'S THE SICK BAY?

HOW DO WE GET THERE?

WHERE'S THE BULLETIN BOARD?

WHERE'S THE C. P.?

WHERE DO WE MUSTER?

WHERE DO WE WASH?

WHERE'S THE DRINKING WATER?

HOW ABOUT VISITING MY FRIEND IN THE  
NEXT PLATOON?

And if it's by a roundabout way that inconveniences you and takes up your time, just remember that it is somebody's camouflage plan. And it can only succeed if you make it succeed. So, don't stand around and bitch about it; do just what you're expected to do and insist that the men around you do the same. All you have to know to understand the plan is the reason for the plan and the reason is this. Camouflage discipline has two definite aims; to occupy the terrain yet keep down as much as possible all changes in its appearance, and to maintain the camouflage which is erected to cover those changes.

NEVER LET YOUR TRACKS OR ROADS TERMINATE AT YOUR TRUE POSITION





## NIGHT RULES

In considering night operations it is well to remember that the very fact that you do not need the concealment which is necessary in the daytime may work to your disadvantage if you are not alert. The enemy does not need it either. So, if you are busy at some task like installing yourself in a machine gun position under cover of darkness, or even resting in a bivouac, the enemy can use the cover of darkness to work his way up close. He can do this much easier than he can in daylight if you give the clues to guide him to your position. This, of course, is because it is much harder to see him.

It then becomes doubly important that we exert every precaution to keep from attracting attention. Noises seem magnified at night; clinking gear, the sound of chopping, snoring, may be fatal. Calling to one another, talking, even whispering should be kept to a minimum.

Say no more than is absolutely necessary to carry out your duties. Keep up your courage by some other method than whistling in the dark at a time like this.

But far and away the most important rule is **KEEP FROM SHOWING A LIGHT**. The temptation to take a chance is always great but it must never be yielded to. You may want to cook, to warm your rations, to dry yourself, and, greatest of all, you desire a light to work by. Even on the darkest night your eyes grow accustomed to the lack of light in thirty minutes. Every time you light a match or flick on a flashlight your eyes must go through the process all over again. Don't do it. Learn to see in the dark like a cat. And, above all, you must do without smoking. This is the greatest sin, you can't cover it up any way. To take a drag on a cigarette behind cupped hands or with your helmet in front of your face simply aggravates the situation. You simply create a reflector which lights up your face all the more.



# TRACKS...

Tracks in the form of roads and paths, or just beaten and scuffed ground in general are the things which give the camouflage man a headache. If the enemy knows the terrain, and he usually does when you are pushing him back, he has a pretty good idea of all the roads and paths and trails which were there before the Marines came. He may even have photographs of the whole area. Now, even a man who is about to get a psychopathic survey can see that if we make any new ones or widen the old ones, the Japs will be able to detect it.

Your first thought then, should be, to move about in this terrain without leaving any tracks at all. You can do it too, lots of times. Suppose you go down to the shore and travel right along the water's edge and let the waves take care of your tracks. It's dangerous, but it is a possibility. Suppose you waded in streams or swamps, suppose you even swim the way the Japs do. And remember, you can always use the existing roads and paths if you take care not to be caught on them by enemy observers. Be careful to keep them exactly as they were. Don't let them widen out at any one spot. If a truck breaks down for instance, it might be wise to tow it to a place where some trees meet the edge of the road. If you just swing out in the field and pass it, you are making a bulge on a line which had none before you came along.

But most of the time it is impossible to move on the terrain without leaving tracks. When this is the case your effort should be to hold the tracks down to a minimum. Take advantage of all the hard surfaces you come to. Cut in under the trees whenever you can. Break the tracks up into as many small fragments as you possibly can even if this means that you travel by a longer, more roundabout route.

There are times, and all too many, when you cannot do anything at all about concealing your tracks. In the desert and in open country, especially in fields of grass, your tracks may be visible from the spot where you started clear to the position you have taken. In such a case you still have an ace in the hole. Instead of practicing concealment, you practice deception. Instead of trying to hide the tracks you use them to mislead the enemy. He will know, of course, that you are here but the idea is, to drive him crazy trying to figure out where you are. And the rule is; **NEVER LET YOUR TRACKS TERMINATE AT YOUR TRUE POSITION.**

Take them on past the position and backtrack the way a fox would. How far to go is problematical. If it is a large position with many vehicles coming and going, you might take the trail on for several miles. If it is a small one like a machine gun emplacement with a footpath leading to it, you might take the path on for only a few hundred yards. Remember this; the enemy cannot afford to overlook the possibility that you are at the end of the trail. He may bomb or shell the spot. Don't be too close. Once he has eliminated the possibility that you are at the end, he has to look for you back along the tracks. And you might be any one of hundreds of places. Make it tough for him.

There is one more trick you can use. To keep the enemy's attention on the end of the trail, you can make it a decoy. If there is time you can whip together a few dummy objects. They don't need to be very good to fool the airman. Or you can just chop up the bush a little, dig some dirt and pile it around, anything to give the impression that military activity is going on.







### DON'T LOOK UP...

Your face is smooth and light colored. It reflects a great deal of light. Never look up when a plane is overhead, or, if you do, break off a branch or bush and look through the leaves carefully.



### CIGARETTES...

should never be thrown down. Pinch out the fire, split the paper and roll into a small ball. Scatter the shreds of tobacco around so no clues will be left.



### SHINING OBJECTS...

shine like mirrors in the sunlight. They can be seen for miles. Watch your mess-gear and weapons. Keep them under cover or in shade.



### TAPE DOG TAGS...

That little clinking noise may be your dog tags hitting together. Just put them tight together and bind them with a piece of friction tape, or adhesive tape.



### SCIVIE SHIRTS...

They may not be white any longer; they may be grey, but they are just like a flag to the enemy if you insist on wearing them in the open. Your skin's almost as bad.



### NO SHORT CUTS...

Paths may be wired; they may be taped; or they may be just blazed. But they are laid out for a purpose. Don't take short cuts and make new tracks. You may find that a sentry will put you under arrest.





### DON'T...

cut brush or limbs for camouflage from the bush right next to your position. Go some distance for them and don't take them all from the same place.

### BURY...

your empty ration cans and all other waste material. Fill the dirt back in very carefully and cover the spot with leaves, or dry grass. Go so far as to sod the spot if you find it necessary.



### LYSTER BAGS...

If they are hanging from a tripod, lean some saplings or branches against them. If they hang from a limb, tie some foliage against their sides to cover white canvas.



### STAY OFF HORIZON...

You can see why. The important thing is to know where the horizon is. If the enemy is downhill from you you are usually on his horizon.



### STAY IN SHADOW...

And also be sure you are against a dark background. You can be seen in silhouette if you are in shadow yet a lighted background is beyond you.



### SMOKE...

Billowing up in a straight column is always bad. Build your fires under trees so that smoke will be scattered or put a screen over the fire so that the smoke will seep through or dribble out around the edges.







## LEAVES CAN DIE . . . . .

Queens die proudly but leaves just die. Especially after you have cut them. They just turn over on their little stems and conk out on you. But it takes time even for a leaf to die. And that's the secret of camouflage maintenance when natural materials are being used. You've got to watch your installations and when the leaves begin to die you take them out pronto. Then you get rid of them. You put them under growing bushes or you dig a hole in the ground and bury them. You never leave them lying around out in the open because they will attract the enemy's attention there just as much as they would in your installation.

The matter of the time it takes a leaf to die is very important. Marines have a few other things to do besides changing the foliage in their camouflage nets. Therefore it is to the point to use the hardiest plants which will fit in the position. But the one thing you cannot do is bring in some foliage which does not grow in the particular spot where you are going to use it. On the other hand some plants are so delicate and tender that they begin to droop the minute you have cut them. Ferns are in this class. Colonel Stoopnagle, the radio comedian, had a definition for ferns. "A fern is a thing that if you don't water it it will die, but if you do water it it will die anyway only not so soon." Remember that selection of position is always one of the most important parts of your camouflage job. If the spot you have selected consists of no better cover than these very shy, quick-wilting plants, it might be better to select a spot which lends itself more favorably to concealment. Or, you might use artificial materials if they are available.

Camouflaged installations must be inspected regularly. It is good to make a habit of looking them over each morning and evening. In working with natural materials use a few, simple, common-sense rules. Always use dry or dead grass and brush if the position warrants it. Take all green grass and small bushes up by the roots; they will

last longer if they don't have a chance to bleed. The one place you can't use roots is in a net since you must push the stems through the mesh. And again, when the foliage must be cut, use the toughest, most durable looking plants you can find.

The camouflage engineer, working on the larger, more permanent installation is faced with the infra-red problem if there is danger of the enemy using photography on his work. He cannot afford to wait until his foliage material even shows visible signs of wilting because of the chemical changes within the dying leaf and its effect on infra-red film. However this fact and the measures to counteract it are a problem for the specialist and need not be of great concern to the combat Marine who does not stay in any one spot for very long and in addition operates usually from small installations.







SHADOW







**You Can Kill a Shadow ...** But you have to keep your mind on it all the time because shadows have a way of coming to life again. And you can't afford to have them hanging around; they are spies pointing you out to the enemy. Maybe your truck has a wonderful camouflage paint job on it and it is a dark and cloudy day. You park it on the bare ground and go away for awhile. While you are gone the sun pops out all of a sudden and when you come back there is the shadow, black as can be, yelling, "Here it is! Here it is!"

Now the way to kill a shadow is to sic another shadow onto it. A sort of shadow versus shadow deal. A big shadow can gobble up a little one quicker than you can say, "Halls of Montezuma." And the way a bunch of little shadows can tear the edges of a big one to tatters is simply



**WRONG**

wonderful. They take all the character out of it; they worry it so bad that it can't seem to make up its mind what to be, and finally winds up in such a sorry shape that even its own mother wouldn't know it. When you get a shadow into a state like that it is no good to the enemy and you can afford to turn your mind to other things.

A shadow is caused by some object stopping the sunlight on its way to the ground. The light bounces back off the object, never reaches the ground, and that's what a shadow is; simply the absence of light. Now, the shape of the object determines the shape of the shadow and the position of the sun in relation to the object causes the shadow to be long or short. The unevenness of the surface the shadow falls on also distorts it. Put these



two together and you have the reason why some people are frightened by shadows and children may be afraid of them. They get so weird looking that you might think you had a couple of drinks too many. Keep this in mind when you are working to defeat shadows. Keep them distorted, uneven, ragged at the edges. Don't ever let them be the proper shape of the object you are trying to conceal.

**Hide and Seek With a Truck...** When you were a kid and played this game how did you go about hiding? You got out of sight! And how did you accomplish this? You either got something between yourself and the person who was looking for you or you got where there wasn't any light. You can do the same thing with a truck, a tank, or any vehicle. Find some



**RIGHT**



cover; it is usually trees. If it is a large tree that you can drive the truck under then by all means get under it. If the tree covers the truck completely and its shadow stops the light so that the truck cannot cast a shadow, then that may be all the camouflage you need. Then you only have one thing to worry about. The sun moves across the sky, the shadow moves around the tree, and your truck can't start itself up and move with it. You will have to stick around and move it every so often. Or, you can figure out where the shadow should be for all the time you are gone and park your vehicle so that it will be covered for the whole time.

If there are only small trees or bushes whose shadows will not cover the truck, you had better watch out! The thing to do in this case is **PARK ON THE SUNNY**

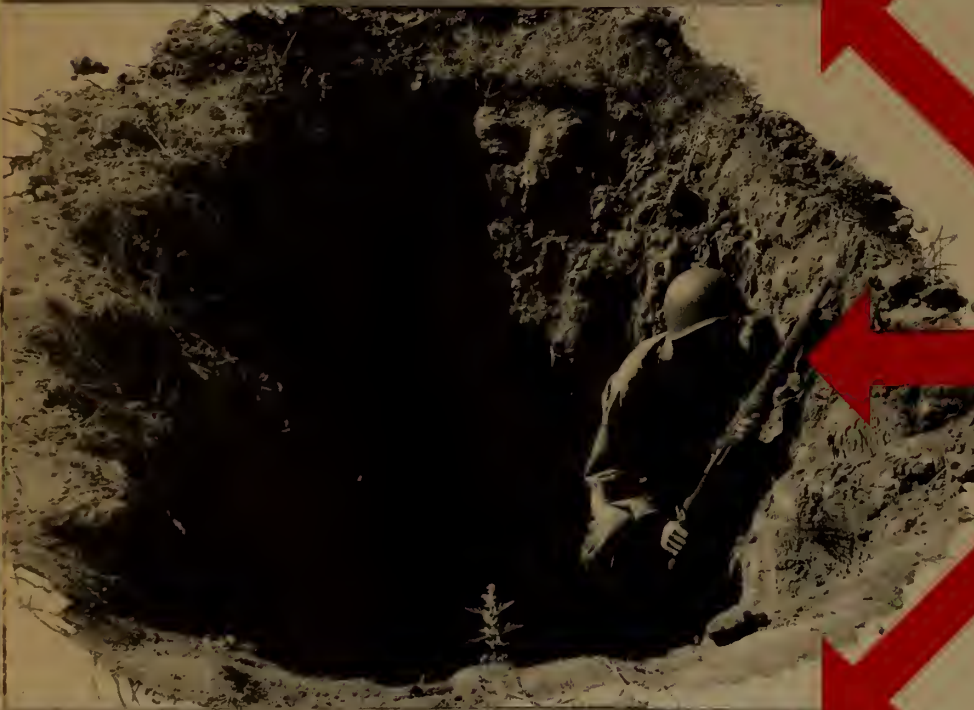






SIDE. From the air it is the shadow which is most easily seen and not the object itself. So make the shadow fall into the bushes and get lost. It will be irregular like the shadows of nature and not recognizable as a military object.

Once you have parked and taken advantage of all the concealment which natural cover affords, you can proceed with your hasty concealment according to the amount of time you have to do it in. Cut some brush or some limbs and place them on the truck to break up its familiar form and to add to the irregularity of the shadow. If you are short on time let it go at that. Remember that you do not want to let the enemy catch you moving around this spot. MOVEMENT is the greatest enemy to concealment. If you have more



**WRONG**

time you can erect your drape net. Add some brush to the net, go back and wipe out your tracks or cover them where they lead into the position and your job of camouflage is complete. Now get away from there and dare the enemy to find it.

### **The Sloppy Looking Shelter Halves...**

You can go out on maneuvers and put up nice neat rows of nice neat shelter halves and maybe be praised for it. But in the Combat Zone it's the last thing you want to do. The sloppier they are and the less they look like shelter halves, the happier you ought to be. Get them in cover and PRESERVE THE COVER. Face them in different directions and never in rows. Let them be saggy and wrinkled like the hostess in a San Diego night club. Lean some branches or bushes against them to break





up whatever shape they may have left. Always keep the flaps down; the black, triangular shadow of the opening is always a dead giveaway. And remember: keep the tents sloppy looking but not the area around them. Get your gear all out of sight and cherish every little plant and blade of grass around the spot. Their shadows are working for you!

**Tight Is the Word for Flattops...** You just can't overdo this. Keep your flattops stretched tighter than a Scotchman's pocketbook. They are fastened to the perimeter wire only, so get in the habit of taking up slack on the wires at least twice a day. And, **WORK FROM UNDER THE NET.** Unfasten and take up on the wires where they hook to the net and not to the perimeter wire. This will keep you



**RIGHT**



from beating a path on the ground around your net.

Dampness will make flattops sag, and if they are allowed to do this they will hang over their support wires. There will be a little highlight and a little shadow where each cord crosses the support wire. Taken all together this makes lines in the form of a cross or a spiderweb and is easily recognized as a flattop by the photo interpreter.

**Watch Out for the Jap Silhouette Cutter...**

Did you ever let a guy in an amusement park cut your picture out of black paper and paste it on white paper? He was a silhouette cutter. He was looking at your outline; your dark shape seen against a light background. Be sure you don't give a Jap a chance to cut you one with a





**BY THEIR SHADOWS YOU CAN TELL THEIR SHAPE. SO CAN AN AERIAL OBSERVER**

machine gun. If a nice dark shadow is lying on the ground that doesn't always mean that you are safe standing in it. There may be a light area just beyond and you can be seen very easily against it. You had better get down and crawl. And try and figure out just what position the enemy might be in; standing, sitting, or lying down. The angle on which he is looking has a lot to do with it.

**Ready Made Fox Holes . . .** Artillery men, both our own and the enemy's, will sometimes save you the trouble of digging a fox hole. If there are so many shell holes around that the Japs couldn't possibly tell which one you were in, then it would be very smart of you to use one. But be sure that it isn't the only one around there. Use the only shell hole in the field in a case of extreme emergency and

hightail it out of there as soon as you get a chance. Remember one thing. A shell hole or bomb crater has a shadow side and a sunny side. Stay in that shadow, Mac!

**Hew to the Line . . .** Sometimes you haven't time or materials to build up the camouflage necessary to eliminate the tell-tale shadow. This is often the case with planes in the open country. In such cases you still have one last card to play. Remember that the shadow is dark. And there are dark lines all over the terrain. Places which are wetter than others usually have denser, greener grass. Lines of bushes, even lines where one field meets another with something different growing in it. Get on these lines, even if it is hard work. Let the dark shadow fall on the darkest part of the terrain that you can find.

**SEE HOW MUCH YOU CAN INTERPRET FROM THE SHADOWS ON THIS RECONNAISSANCE PHOTO**







DISPERSION





# NO CAN SEE...NO CAN HIT



In combat, men always have a natural but extremely dangerous tendency to "bunch up." Once observed, any concentration of men or matériel immediately creates a juicy target for the enemy. Until they have learned their lesson the hard way—by bitter and bloody experience—men are generally indifferent to any warnings about the shattering damage that can be inflicted on concentrated targets by sudden and determined enemy action.

Whenever coming under hostile aerial observation, or upon establishing contact with enemy ground forces, a unit commander promptly scatters or disperses his troops. Whenever taking up a position or preparing to build an installation of any sort that may risk becoming a potential target to the enemy, he also disperses its various elements to the fullest extent. By taking these security measures, two things are accomplished. First, it prevents men or matériel from presenting a vulnerable target. Second, they become more difficult to see.

Without sacrificing proper control, and always being governed by the tactical situation and the nature of the terrain, it is the duty of a unit commander to disperse his troops and matériel to the utmost.

Even when a position is perfectly camouflaged, or completely concealed by the natural protection of woods or other terrain features, the possibility of its eventual detection by the enemy must be taken into consideration. If it is attacked, and the installations have not been dispersed, the game will be up. Disaster, and much unnecessary bloodshed will be the inevitable result.

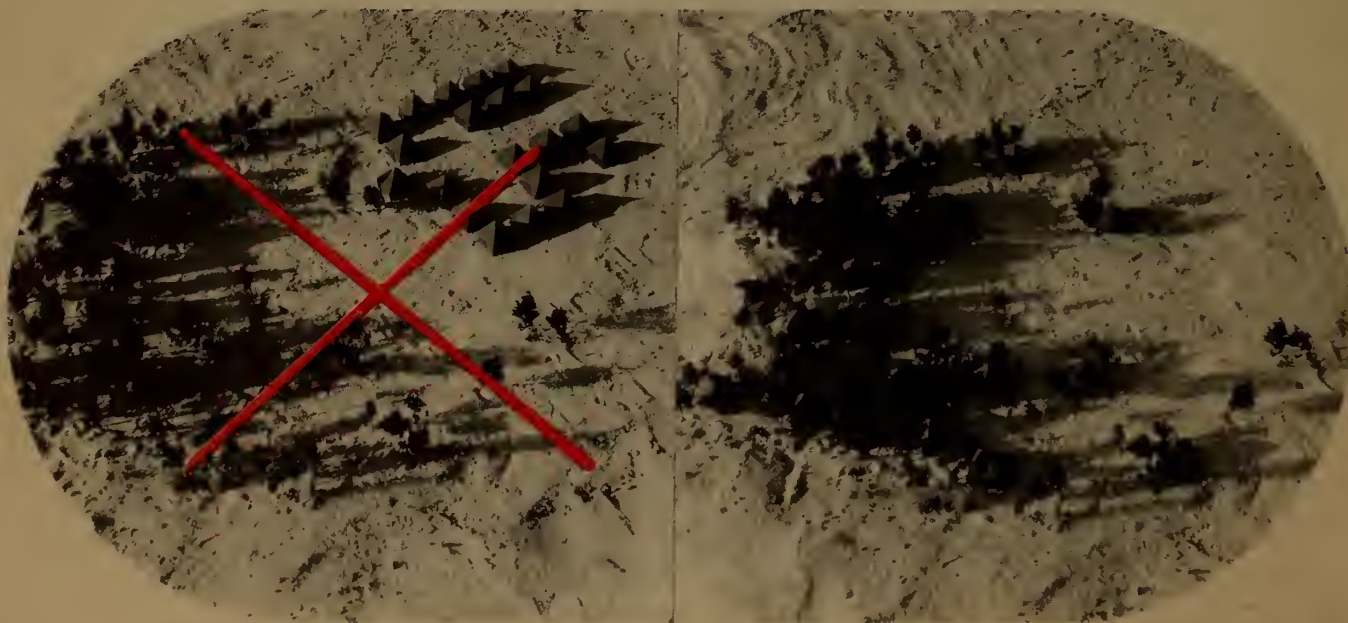
Except for natural concealment, proper dispersion of a

command offers the most convenient short-cut to successful camouflaging of a position.

**NO CAN SEE...NO CAN HIT...** One of the expressions which writers are constantly using in this war to describe the reason for the camouflage work we do is this, "If they can't see it, they can't hit it." That is true, as far as it goes. Of course, there is more to it than that. Maybe they can see it; we still use camouflage to prevent them from recognizing it. Maybe they can see it and also recognize it; then we use camouflage to prevent them from estimating how much and how many. Camouflage is not entirely hiding. It is also deception. But its first aim is hiding and the first step in hiding is to break a large group up into many small units which are harder to see individually and also easier to conceal. This is dispersion.

We use dispersion for three reasons. It is harder to see one unit than a whole group. For instance, it is harder to see one pyramidal tent on the ground below than it is to see fifty of them lined up in rows. Next, it is harder to hit one small object than a whole group. And third, one unit is less valuable a target. One tent, one tank, one man, may escape attack if the enemy is looking for bigger and better targets where he can do more damage.

You have to train yourself to disperse. It is exactly the opposite to what we are accustomed to do. We bunch up in crowds; we park in nice neat rows. We live on straight streets. Most of us don't even like to be alone. But then,







most of us don't like war either. Yet it has become necessary to fight one. Likewise, it is necessary to practice dispersion even though it is not our nature and training to do it.

You have to pay a price for dispersion just as you have to pay for anything that is good. And the price is, difficulty of control and time lost. A convoy is traveling along a road; they get an air raid warning; they scatter. Each driver heads for some cover if he can find it but he keeps away from the other trucks. The actual distance between vehicles cannot be stated exactly. Common sense and the type of terrain controls it. The raid passes and no damage is done. Now the convoy must reform and here is where we begin to pay the price. A runner may

have to be sent to some of the trucks with instructions; time is taken up in getting back on the road. Some drivers may get stuck and have to be pulled out. These are inconveniences. Can they compare with the inconvenience of having some of the trucks totally destroyed by a direct hit?

Everyone realizes the benefits which are gained when we advance on the enemy as skirmishers. We reduce the damage done by both direct and indirect fire. This is purely a tactical reason. The fact that skirmishers, camouflaged and advancing cautiously, can work their way very close to the enemy before being discovered is often ignored or passed by as too much trouble. Never make this mistake. Never pass up the advantages.

*Restricted*





# JUNGLE COMBAT CONCEALMENT



On Guadalcanal Island in November, 1942, toward the close of another successful chapter in Marine Corps history, General Vandegrift, then Commanding General, First Marine Division, said:

"My message to the troops for this type of warfare is to go back to the tactics of the French and Indian days . . . Study their tactics and fit in our modern weapons, and you have a solution. I refer to the tactics and leadership of Roger's Rangers."

Did you ever play "Cowboys and Indians" when you were a kid? Have you ever stalked a deer, gone duck hunting, trapped a bear or snared a wild cat? If you have, the technique of jungle combat concealment will be familiar to you. There is only one difference. You will be hunting a crafty and dangerous enemy who is also hunting you, and the stakes are life or death.

Before the American Indian went on the warpath, he painted his face. It made him look ferocious—but, it also served to break up the tell-tale outlines of his features. For similar reasons, he broke up the form of his body with many fringes, tufts of fur, and feathers. Against the background of his native forest, he was very difficult to see.

Here is an embarrassing fact, but none the less true. The initial success scored by the Japs in the Southern Pacific campaign was largely due to their ability to infiltrate through and outflank our positions. The technique they employed was freely borrowed from the traditional hunting and stalking methods of the North American Indian.

The situation is now being reversed. We are outwitting the not-so-wily Jap at his borrowed game. The Marines started it. In July, 1943, they landed at Viru Harbor on the island of New Georgia and, by a clever infiltration manœuvre through the dense jungle, surprised and outflanked the Japanese positions at Munda. At last we had begun to take advantage of our birthright.

Many thousands of miles separate the forests of New Hampshire and Vermont from the jungles of New Britain and the Philippines. Other than this, the difference between them is mainly one of detail. Details of climate, vegetation, and color. The rules for stalking a deer in the Adirondacks are the same in principle for tracking down or ambushing the Jap in the mountains of New Georgia. If James Fenimore Cooper were alive today, he might have written the perfect textbook on jungle combat concealment.

If the Marine had a creed for jungle fighting, it would go something like this:

"I must learn to see. I must learn to see my enemy *first*—and I must learn to outwit, and track him down. I must learn patience, and how to move by stealth, silently, by day or in the night. I must know the jungle intimately, so that I may use it to the utmost advantage to confuse, trap, and destroy my enemy. I must blend with every shadow and merge with every vine, leaf, or palm frond. I must be a part of the jungle, a serpent always striking, *unseen*."



## KNOW YOUR ENEMY



**JAPANESE SKULDUGGERY . . .** The Jap is credited with being a crafty, diabolically cunning and dangerous opponent. He observes none of the rules and hits below the belt. In action, he employs a deceptive, utterly ruthless bag of tricks as fiendish as they are violent and cold-blooded.

All this is true. In no other campaign in military history has so much *repetitious* skulduggery been practiced against an opponent than by the Japanese in their recent operations in the South Pacific. Therein lies their weakness.

Except for some initial success, Japanese trickery has been largely ineffectual. Without underestimating their knavish potentialities, it is none the less increasingly evident that the Nips have about exhausted their bag of dirty tricks. At least no fresh evidence has recently come to light of their having employed any new examples of "black magic." Meanwhile, they have been guilty of a stupid, but nationally characteristic blunder. They ruined everything by playing a few gags to death. They have failed utterly to grasp the significant fact that, once a magician's hat trick has been exposed, it no longer fools.

**THE TRICKS OF THEIR TRADE . . .** In the early stages of the campaign, some of their favorite tricks consisted of taking advantage of the difficulty in distinguishing the Japanese from Malaysians and resident Chinese. In Malaya, they frequently dressed as civilians and hid

their guns until a surprise attack could be sprung. They sometimes dressed in the uniforms of captured British and Dutch soldiers and hired civilians to drive private cars to bridges prepared for demolition so that their men, hidden in the cars, could shoot the British covering parties.

One of their favorite tricks has been noisemaking. They imitate frontal fire to attract the opposition while lightly armed troops work around the flanks to take their opponents from the rear. Exploding firecrackers in the rear of defending troops to create the impression that they are being heavily attacked has been one of their favorite outdoor sports. Rapping bamboo sticks on hard objects to imitate machine gun fire, calling out in English for the whereabouts of an officer and then shooting him when he answered are now well known deceptions. Using the flag of truce to entice our men to hold their fire, only to open up themselves at point blank range is another favorite ruse which no longer fools anybody.

Japanese patrols may be counted on to do the unexpected. They often withdrew from Japanese-held areas while these were being scouted by our forces. When our patrols reported back with the information that the enemy had fled, the Japanese would reoccupy the area with a strong force. When, subsequently we moved a considerable number of troops into the area, the Japanese would then open up with a murderous fire at close range.

★ (Continued on page 66)







# JUNGLE COMBAT








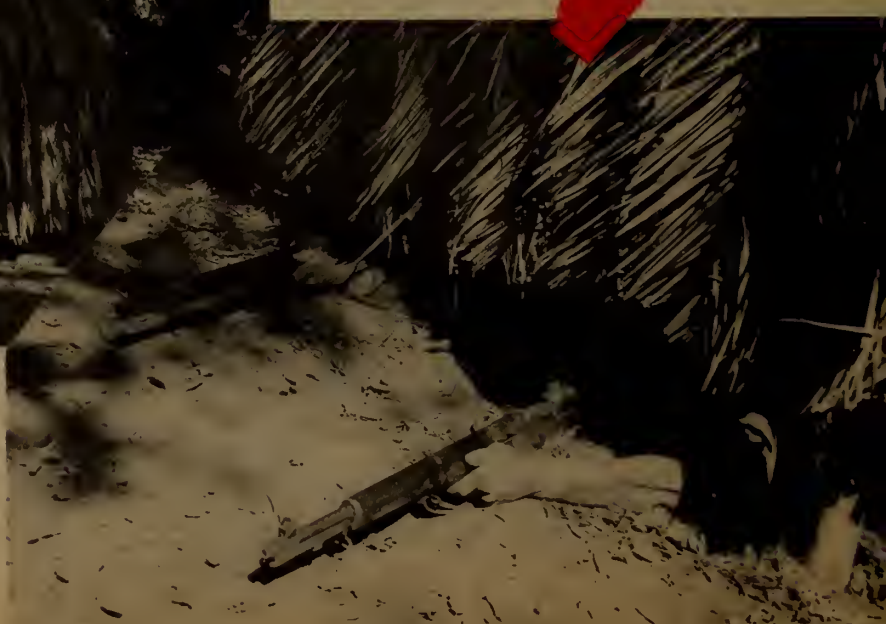
Here is the reason why. They usually contain either a Japanese sniper, a man armed with an automatic weapon—or both. Spider-traps, connected by shallow, hidden trenches, will be round about. Always by-pass such defense pockets whenever possible. Leave them to be dealt with by a mopping-up party at some later date.



You can't be too cautious when scouting and patrolling or advancing through enemy-held territory. Avoid exposing yourself to the business end of a hollow log or tree stump. If you do, you will be flirting with potential death-traps. Never trust them. They will rarely be as innocent or empty as they seem.



Beneath the floor, a trench will extend all around the hut. When you think you have him pinned down with rifle fire and decide to rush the position, be on your guard. By that time he has probably made good his escape by means of concealed trenches, then from other positions, he will attack you from the rear.



You will always find the wily Jap in the most unexpected places or at least look for him there. You might expect him to fire at you from loopholes cut in the walls of this hut. He is much too smart for that—even though the chances are he has a super-expendable sniper or two concealed in the rafters.



The Jap possesses unlimited patience. While awaiting a target, he will hide out for days in a spider-trap, existing on a little rice and dried fish. Often these spider-traps are linked up to others by concealed trenches. If the location of one is discovered and made untenable, the Jap will evacuate it to pop up in another nearby.



It is said of the Jap that when he isn't fighting he spends most of his time digging. Like the proverbial mole, overnight he will pop up in the unexpected places. Returning Marines will tell you that the favorite hideout for the individual soldier is in a spider-trap. There is only one hidden here, but there could be a dozen.




Under the top coating of thick, solid earth, bunkers are constructed of many layers of stout coconut logs. Usually, they have two or more concealed machine gun embrasures of the flap-door variety. Tracks are seldom if ever seen around their vicinity. The approaches are generally by way of carefully camouflaged trenches.




The Japanese bunker is difficult to spot. To detect them, always look for prepared lanes of fire cutting through the jungle. They are dug well into the ground and covered with earth. Natural camouflage is obtained by planting numerous seeds or transplanting vines which sprout and grow quickly in the damp, tropical climate.







The blind, which is raised from within, is the familiar flap-door type. Supporting frames over the position are constructed of saplings and lashed together with bark. A burlap cover holds the soil in place. In average ground, a hasty emplacement such as this one can be dug and camouflaged in the space of an hour.



Concealed in this bank is a two-man fox hole or heavy machine gun emplacement. Notice that the trail does not stop at the position nor are there signs of any apparent access. Notice also that there are no signs of spoil. Entrance is gained through a covered trench which starts in dense undergrowth out of sight to the right.



Here is an observation post in the base of a rotting tree. The bark has been pierced so that the man stationed inside can see in both directions, up and down the trails and communicate with his men hidden nearby. Entrance to the hollow tree is through a spider trap at the base, the roots having been cut out and removed.



The Japs are very clever at picking their sites. They are firm believers in the use of natural concealment and resort to camouflage only when they have to. Look for them in spots affording the best concealment combined with good fields of fire. Thoroughly investigate even the most innocent looking places.





# JUNGLE CRAFT





**ESCAPE IN THE TROPICS** ... A lost detachment of marines came back from the dead. It happened in September, 1942. Flying his dive bomber over an isolated part of the north shore of Guadalcanal, Second Lieut. Dale M. Leslie saw some white spots in a clearing of the jungle. He made out the single word: "Help."

To put the words into letters a group of marines had taken off their shorts and spread them on the ground. They had been cut off for many days by the Japanese. But they lived, they fought, they sniped. They avoided death or capture. They used the jungle to advantage. By a ruse, they finally attracted the attention of a friend.

Leslie reported to headquarters and kept his machine guns hot, helping the marines fight their way to the shore. Thanks to his dive attacks, a group made the beach. They started swimming the mile and a half to a destroyer sent up from headquarters to rescue them. Night closed in. Leslie dropped flares near the men in the water and one of the destroyer's boats picked them up.

**MEET YOUR FRIEND, THE JUNGLE** ... Like the detachment of marines mentioned above, your life may depend some day on your ability to use to advantage all that a jungle can offer.

Disregarding animal life, a South Pacific jungle can supply the necessary food to sustain you for an indefinite period. It can clothe and shelter you. It can hide you. It can furnish all the materials needed to conceal you and your weapons from being discovered by the enemy. It can give you lines, ropes, and cords; or even fish hooks and daggers. It can even kill for you. The jungle can be your friend, and a very generous one. Now is the time to learn how.

**BAMBOO** ... Bamboo is well known to us. It supplies good stakes, props, and framing material. It can be easily fashioned into knives or scrapers, fishing rods and spears. The slivers make good sharp needles. When dry bamboo is cut to a convenient length and pointed, it will make a fine dagger. ★ (Continued on page 64)

This is the breadfruit tree. There are many varieties, and they are cultivated by the natives on most of the islands. They will be found growing anywhere from six to fifteen feet in height.

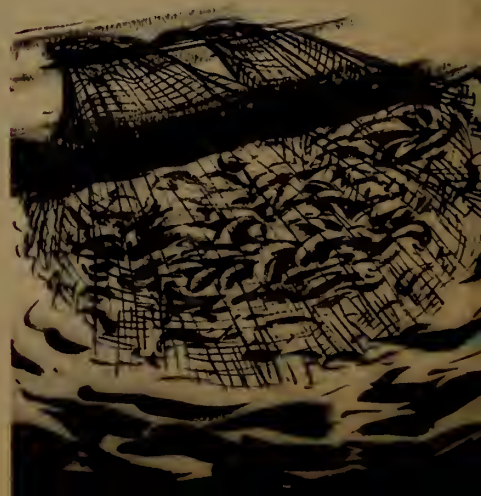


Heated breadfruit gum, smeared over the seams of a leaky boat or canoe, will provide satisfactory caulking. The variety known as "ulu nea" is the best. Some are not suitable.

The fruit of all varieties is good eating and provides one of the main articles of native food. It cannot be eaten raw but cooked is pleasant tasting, nutritious, and tastes like bread and potatoes.

The over-ripe breadfruit is sticky and tenacious. In this condition it makes a very satisfactory paste. The top of the fruit is removed and the rind acts as a natural glue pot containing a soft substance.

The inner bark, or bast, of the younger shoots of the variety of breadfruit known as "ulu manna" is used for making cords. The polynesian seine nets are made of two-ply twisted cords of breadfruit bast.







These are your friends. They are coconut palms. They grow profusely on most of the islands of the South Pacific and their bushy crowns provide good natural concealment from aerial observation.



The fibrous husk that surrounds the nut is largely composed of tough, hemp-like strands which can be easily separated from the interfibrous material and plaited or braided into strong lines, ropes or cords.



At their base, the midribs of the palm fronds can be broken and "roughed out" into practical and serviceable paint brushes. Larger brushes can be made from the fibres of the coconut husk and trimmed to size.



The shell itself can be cut in half and used as a bowl. Furthermore, if supported by chocks, or a base made from an end cut to form a ring, it will make a serviceable paint pot.



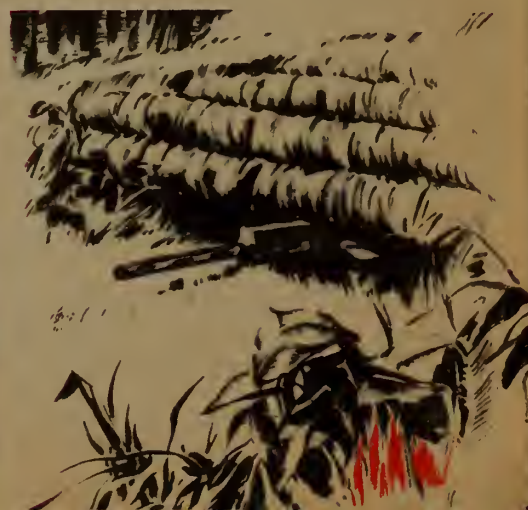
### *The Coconut Palm*

The large terminal bud or "cabbage" is one of the very finest vegetables, and may be eaten in quantity, either raw or cooked. In the Islands, it is commonly referred to as "palm salad." It tastes like celery.

Palm fronds provide an excellent waterproof roofing material affording shelter from the weather. They can also be split along the midrib, turned inwards, and interwoven into blinds or screens.



Last, but not least, the trunks of the palms themselves can be hewn into required lengths and, when installed over a fox hole or machine gun emplacement and camouflaged, will serve as a splinter-proof covering.





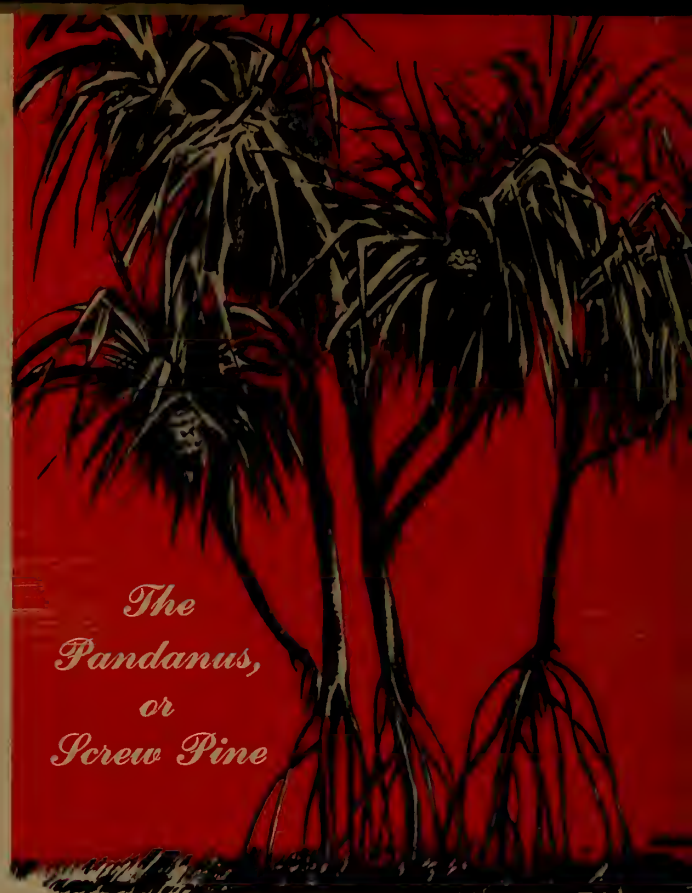


Strung together at one end, the leaves can be quickly fashioned into cloaks, kilts, or head coverings. An excellent sniper's suit can be made in a few minutes.

The long spiny leaves, tied together end to end, can be woven into very serviceable nets. When garnished with natural materials they can be used for drapes or even flattops.

The pandanus is a common tropical plant. It is found near the seashore, often forming dense thickets back of the beaches. It may be identified by the prop roots at the base of the trunk.

The tender, terminal leaf-bud, or "cabbage," may be eaten raw or cooked. The red fruit pulp and the seeds are also edible. The keys of the pandanus fruit that have fallen to the ground and become dry form neat, natural brushes. The thicker, outer part acts as a handle—the stiff fibres of the inner, smaller end are trimmed to form the brush.



### *The Pandanus, or Screw Pine*



The leaves can also be plaited into strong, useful baskets and haversacks.

★ (Continued from page 62)

**HOW TO PUT FISH TO SLEEP . . .** Do you crave seafood? Do you lack the necessary tackle to catch a handy fish? Then, let a jungle plant be your fisherman.

There are various plants on the South Pacific islands that are used to stupefy fish in tidal pools and fresh water streams.

The usual method is to obtain and crush certain plant parts and mix them with water. Pour quantities of the mixture into any pool that contains some appetizing fish. They will suffocate and come to the surface belly up. They can then be taken easily, cooked and eaten with perfect safety. In a stream, the mixture should be placed at the upper end of a quiet pool. The current will then spread it.

The most available and commonly used plants for suffocating fish are the different varieties of the derris vine,

all woody vines of the type known as "tuba," and many others.

Get in touch with a friendly native. He will tell you what plants and plant parts can be used and how to prepare them. (See TM 10-420.)

**NATURAL DYES . . .** Natural dyes, in a variety of good colors, are commonly used by the natives of the South Pacific islands. Whenever you run out of GI paints—which in the jungle will be often—they will afford a good substitute.

Unfortunately, you cannot always depend on procuring ready-made dyes from the natives. There will be few if any natives available to assist in solving your camouflage problems in a front line combat zone. Don't depend on



them. Once you learn to recognize the basic materials from which the dyes are obtained, it will become a simple matter to make them yourself.

The making of dyes from natural materials usually involves nothing more than squeezing the respective juices of various, easily identified barks, berries, and leaves. Sea water, or burned coral lime are used for binders. It is as simple as that.

Listed below are most of the important colors obtainable, the names of the plants from which they are procured, and the manner in which they are made. In making local inquiries, it must be remembered that a single plant or tree may be known by one of half a dozen native names depending on the locality in which you happen to be. Therefore, the importance of self-recognition of the various species is obvious.

**BROWN...** Sappan wood, or sibucao, is a large, straggling, prickly, semi-climbing shrub that yields a brown dye. When mixed with coral lime it produces a dark reddish-brown color.

A brown dye is made by mixing the inner bark of the pani tree with sea water.

A reddish-brown dye is made from the bark of the o'a tree. The bark is scraped from the growing tree. The chips are gathered in a cloth or matting and the juice is squeezed, by wringing, into a pan. The bark has to be dealt with the same day it is procured. It is surprising the amount of liquid that is obtained from the bark, and can be covered and stored for some time. The fluid forms the full dye, nothing being added to it.

Cloth can be stained brown by spreading the material in the mud of a taro patch.

**RED AND ORANGE...** A bright red dye is obtained from the seeds of the loa tree. The seeds are simply squeezed with the fingers and the juice collected in a bowl. It is only available during seeding time, as there is no way of keeping or preserving it.

A bright crimson color is obtained by mixing the bark of the nonu fi'afi'a, or Malay apple, with sea water and lime.

The fruit of the fig or banyan tree yields a milky juice. The leaves of the kou tree are immersed in the fluid and squeezed. Pink color soon appears and, after continued treatment, deepens into a brilliant crimson dye.

Red dyes can also be obtained from the bark of the kolea tree, the fruit of the ohia ai, or mountain apple tree, and the leaves of two ferns, the palaa and the ama u mau.

The tuber, or underground stem of the tumeric plant, gives a deep orange-colored juice.

**YELLOW...** This dye is made from the root of the ango plant. After the roots are gathered they are washed in sea water. They are then grated and, when mixed with fresh water, give a dull yellow color. If mixed with a portion of the reddish-brown dye of the o'a tree, the yellow becomes much brighter.

Yellow dyes can be made from the wood and root of the noni tree, the fruit pulp of the nau, or gardenia, and the bark and root of the hoolei tree.

**BLUE...** Juice obtained from the berries of the uki plant furnishes a rather pale but lasting blue color.

The leaves of the indigo, locally known as the tayum, or tagum plant, give a rich blue dye. The leaves are mixed with charcoal in a pit and water is poured on the mixture. Cloth, placed in this solution, will take on various shades

of blue depending on the length of immersion, which can be anywhere from one to ten days.

**GREEN...** The leaves of the mao shrub when crushed and mixed with water, give a good green dye. It is not dependable, however, due to its tendency to fade rapidly.

**PURPLE...** The plantain, or banana plant, gives a purple dye. The trunk of the plant is cut through and the sap allowed to drip into a container.

**BLACK...** Black or gray dye is made from a concentrated or diluted mixture of charcoal in water or candlenut oil. Charcoal is obtained by roasting the candlenut or sugar cane. A black or gray tint can be applied to the cloth by rubbing the surface with a cotton bag containing powdered charcoal.

A perfectly black dye can be made from the seed kernels of the candlenut tree, also known as the lams or kukui tree. The hard-shelled nuts are cooked thoroughly in an oven, after which the nuts are cracked and the kernels removed. The kernels are then set alight in a fireplace that has been roofed with stone and sheltered from the wind. The nuts are very oily and burn readily, emitting a black, oily smoke. The fine black soot adheres to the surface of the stone and, when enough soot has accumulated, the roof is removed and the soot scraped off into a container. The stone is replaced and the operation repeated. When used, the dry powder is mixed with the reddish-brown o'a dye and not with water. The dye is perfectly black and the o'a gives it a shiny appearance.

**WHITE...** Pieces of coral, baked over a hot fire until they crumble, forms coral lime. A fine whitewash is obtained when the powder is mixed with sea water.

**PASTES AND GLUES...** The tuber, or underground stem of the arrowroot, is washed and cooked in an oven. It then forms a ball of paste which, upon drying, may be dipped in water every now and again to moisten it.

The fau songa is the plant whose bark furnishes the best material for lines and cords. The bark contains a copious, clear gum which drains freely when the bark is cut.

**ROPES AND CORDS...** The plants which supply the material for cordage are the fau, the olonga, the matiata, the breadfruit, and the coconut.

These plants grow abundantly and practically everywhere. Except for the coconut, the inner bark, or bast, of the plants is used and it can be readily split off from the outer bark. For finer cords, the bast is scraped on a board with the edge of a shell to remove coloring matter or any gummy substance. After being scraped, the strips are usually braided together and can be rendered whiter by soaking in sea water, rubbing in sand, and bleaching in the sun.

**THE FAU...** The fau plant supplies the material for ordinary ropes. The whole bark is used, in wide strips for heavy work such as tying scaffolding and framework, or in narrow strips for minor purposes.

**OLONGA...** Olonga is stronger than fau but does not grow in such quantity. For this reason its use is generally restricted to fine cords.

**MATIATA...** The matiata supplies a very strong fibre in the bast of the slender rods that characterize the plant. It is used as cordage for the making of tough and strong fish nets. Shark nets are made from matiata cordage.

**LEARN HOW FROM THE NATIVES...** A working knowledge of native crafts will prove to be of tremendous value in solving your living and camouflage problems in the jungle. Whenever possible seek the advice of friendly natives. It will pay big dividends in the long run.

**REFERENCES...** Valuable, and exhaustive information

★ (Continued from page 56)

At night the Japs have been known to send a man toward our lines armed with a Tommy gun and tracer ammunition. This gunner would fire in short bursts at places he believed to be our concealed positions. If fired upon he ducked to the ground while his pals in the rear tried to locate the installation.

One of our patrols, advancing in New Guinea, was fired on by a sniper in a tall tree top. They halted, located him, and apparently shot him down. They then continued to advance and were fired on again. This happened several times. A thorough investigation revealed that a single sniper had been holding up the patrol while dummies had been placed in other trees. Some of these were dropped by pulley arrangement after the patrol had fired a number of shots. This made them imagine that they had cleared the opposition. In another case, the sniper's dummy was rigged so that it could be pulled back up into place. The sniper made the mistake of pulling it back up too soon, thus giving away his ruse.

The Japs have used the following ruses in the Solomon Islands and New Guinea fighting:

They draped a dead United Nations soldier close to our lines and propped him up, expecting that a group of our troops would be sent out to rescue him.

With the same purpose in mind they placed captured weapons in front of our forces.

They fired captured weapons to give the impression that our troops were at the places where the weapons were sited.

They wore cut-out circular boards over their hats to imitate Australian headgear.

They scattered cast-off garments and equipment on a trail to make it seem that they had fled in disorder. Actually it was an attempt to ambush our forces.

They wired and shook branches or long grass in an attempt to draw our fire.

A Jap, camouflaged as a tropical bush, crouched for two days without moving on the edge of an Australian outpost. He learned the names and nicknames of the members of their detachment. One day, in a perfect Australian accent, he called out, "Say, Bill, where are you? This is Alf." When Bill shouted in reply, the tropical bush suddenly rose and shot him dead.

**STOP, LOOK, AND LISTEN...** At every opportunity the Japs will attempt to use these, and other similar tricks. Their skulduggery follows a treacherous but standard pattern. Forewarned is forearmed. Don't be taken in.

**USE YOUR HEAD, USE YOUR EYES...** A marine must not only learn to conceal himself, but he must also train his eyes to ferret out the hiding places of his enemy. He must learn to cover the ground before him with his eyes, inch by inch. He must learn to search every tree, dissect every bush, and probe every mound of earth, with his eyes. He must learn to detect instantly the slightest telltale clue that will betray the presence of his enemy. He must *see* his enemy first, so that he can *kill* first.

After many months killing Japs in the Solomons, Platoon Sergeant Zullo, Fifth Marines, knew this.

on the subject of jungle foods can be obtained from TM 10-420, "Emergency Food Plants of the Islands of the Pacific."

The bulk of the material contained in this section on jungle crafts was compiled from Bulletin 75, "Samoa Material Culture," published by the Bernice P. Bishop Museum, Honolulu.

"I would like to tell you," said Sergeant Zullo, "that a man's keenness or dullness of eye may determine whether or not he will live. Ten men in my platoon were killed because they walked up on a Japanese 37 mm. gun. I went up later, after the gun had been put out of action by our mortars, to help bring back the dead. The Jap gun was so well camouflaged that I got within *four feet* of it before I saw it."

Before you go campaigning, learn all there is to know about scouting and patrolling. It will teach you to use your head and how to see. No matter how much you are taught, don't be satisfied. Keep practicing, keep learning. Read and memorize pages 162 to 180 of "The Marine's Handbook."

**JAPANESE CAMOUFLAGE...** The Japanese soldier carries an individual body and head net. The body net is about three feet by five feet in size. The head net fits the helmet snugly. They are both made of greenish colored straw, fibre, or cord. In each instance the mesh is about two inches square. The Jap machine gun net is about six feet square. It is the same color as the individual nets but made of heavier material and has a slightly larger mesh. These nets are constantly employed and, when in use, are garnished with natural materials to match the terrain.

The Jap sniper is very difficult to detect, being extremely clever at camouflaging himself and his position. He is particularly good at picking his sites—under mangroves, in the side of caves, under logs and in hollow tree trunks or in his favorite spot amongst the fronds of the coconut palm. When concealed in a palm tree, he will occasionally wear a special cloak of fibrous material or even strings of coconuts around his head and shoulders. It must be realized that wherever he is, he is very hard to see.

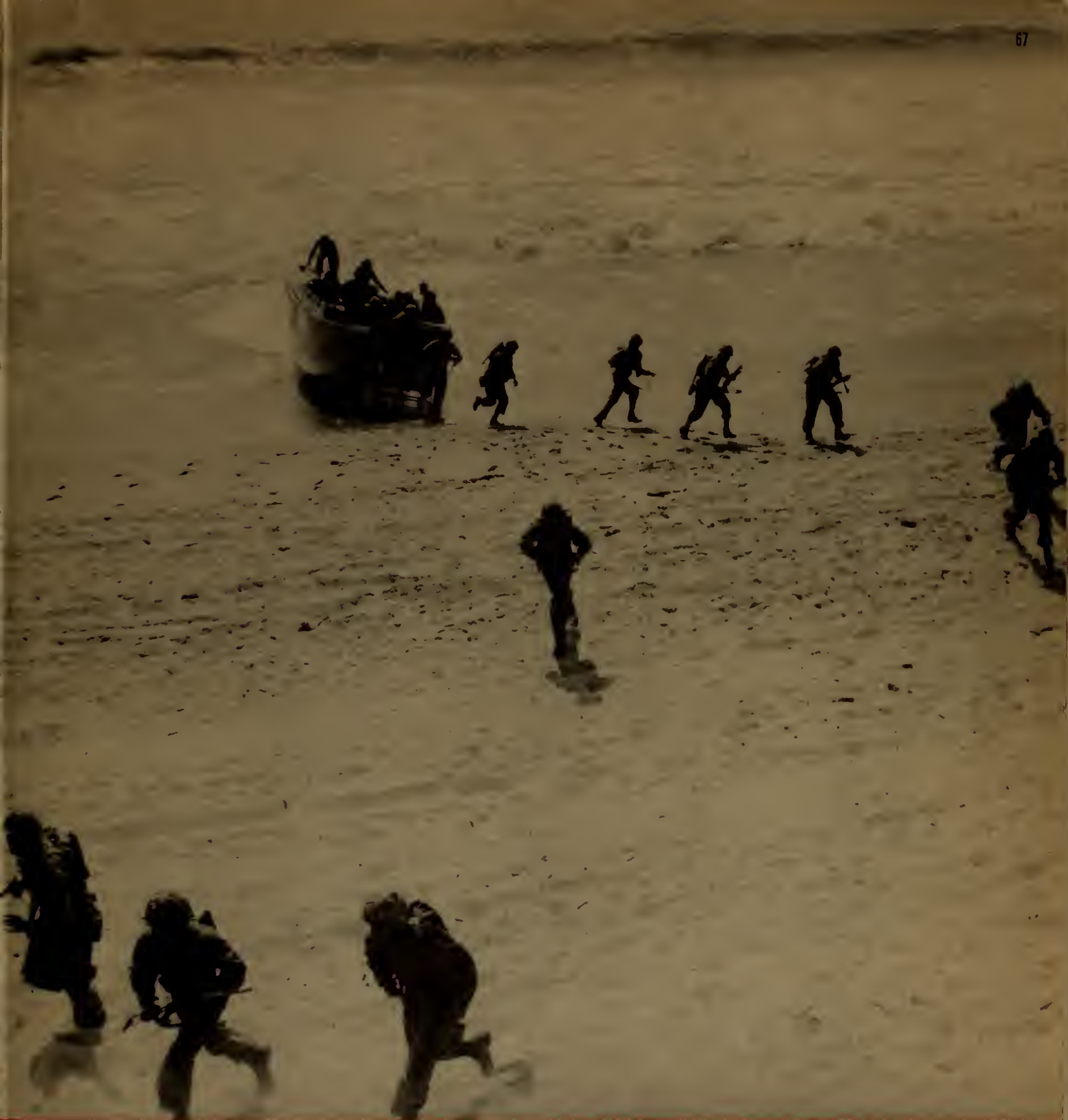
Automatic weapons are sited to cover all approaches and are protected by booby traps and snipers in trees. Weapon pits are small and cleverly concealed. They normally contain one or two men and are often linked by well-camouflaged tunnels.

Automatic weapons are sited to fire along prepared lines that intersect. These lines are cut in the jungle to a height of about two feet, presenting a tunnel effect. For this reason, any opening in the underbrush must be treated with grave suspicion and carefully and thoroughly investigated.

The Jap depends largely upon fox holes and individual weapon pits for defensive positions in his forward areas. Most of the positions are well camouflaged with natural foliage. They also make extensive use of spider traps. Around the top of each installation they usually place a bundle of brushwood about two feet high and tied securely together with wire.

The siting of Japanese road blocks is invariably good. They are usually located at points where a road passes through dense jungle or other enclosed country, such as rice fields and swamps. The actual blocks are always concealed from frontal observation. They are strongly covered by well-sited mortars, light machine guns and antitank guns. These weapons are concealed in defiles, behind ridges or in fox holes and trenches.





★ HITTING THE BEACH ★



Above, in the top picture, you see a rock on the sand, fully exposed to the bright light of the sun. What makes it stand out so clearly? The smooth reflective surface and the dark shadow which is cast.

In the center photograph, the rock has been covered with a light layer of the same sand found in the vicinity and now blends with its background in color and texture. But the dark shadow continues to give away the height and shape.

Now study the bottom picture. Sand has been piled on the sides of the rock to eliminate the shadow. This same method has been used in hiding the rubber boat on the right and this principle applies to the hiding of weapons, stores and equipment.





Apply the same methods to conceal a military object or installation. How can you tell that this is a rubber boat? In the first place it is painted blue-gray to match the sea so its color is wrong on the sand. Secondly, the boat shape is very apparent and the shadows stand out clear and black in a bright light.

Often, when you have an object of considerable height like this supply dump to conceal, you will find that it is very difficult to bank up enough sand to do the trick. It takes too long, creates too large a mound of sand, and the spots where you excavate so much sand are apt to indicate the activity to the enemy.

Turn the boat bottom up and expose the underside which is painted a sand color. This takes care of your color problem. Hide the oars under the boat. The inside shadow made by the bulkheads and the seat are now gone and the only thing you have to contend with is the one shadow around the outer edge.

When such proves to be the case, tone the objects in the installation down to sand color with paint or with some adhesive and sand, and then use a drape net. The net should be pretty thickly garnished with sand colored garlands. Also an ideal net for beach concealment is sand colored scrim with no garnish.

Now heap sand against the sides of the boat until the shadow has been eliminated. Sprinkle more sand over the bottom to give it a sand texture. Throw on a little seaweed if there is weed in the vicinity. **WARNING.** Be sure you are above the tide line or your boat will be gone when you get back.

Don't ignore the fact that even on a beach some positions are more favorable to concealment than others. Tie into the slopes or against the banks and make use of the shadows which are already there. This dump might pass for an outcropping of earth or rock but it would be better right against the bank.







A marine, down flat on the open beach for a few minutes before making a rush to another spot, wiggles and roots his way into the sand. He does not have to get in very deep before the outline of his body and the shadow it casts begin to melt away. His head and helmet are weak spots.



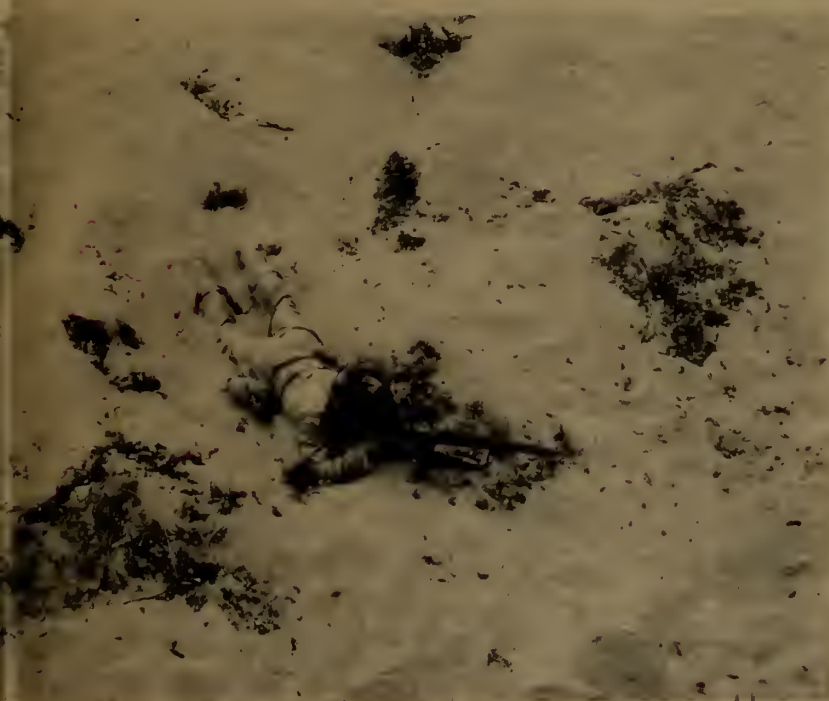
This marine is in even deeper. He has scooped himself out a shallow trench or found a sand ridge to hide behind and reached back and thrown the sand over himself. The head and shoulder target which he must show in order to fire his rifle is very conspicuous, however. Something can be done about it.



A sand colored and textured helmet helps some. This one was smeared with heavy grease and rolled in the sand. The surplus sand was patted off and it was rolled again until it was just right. The sand and grease can be wiped off just as soon as he is off the beach and has a different background.



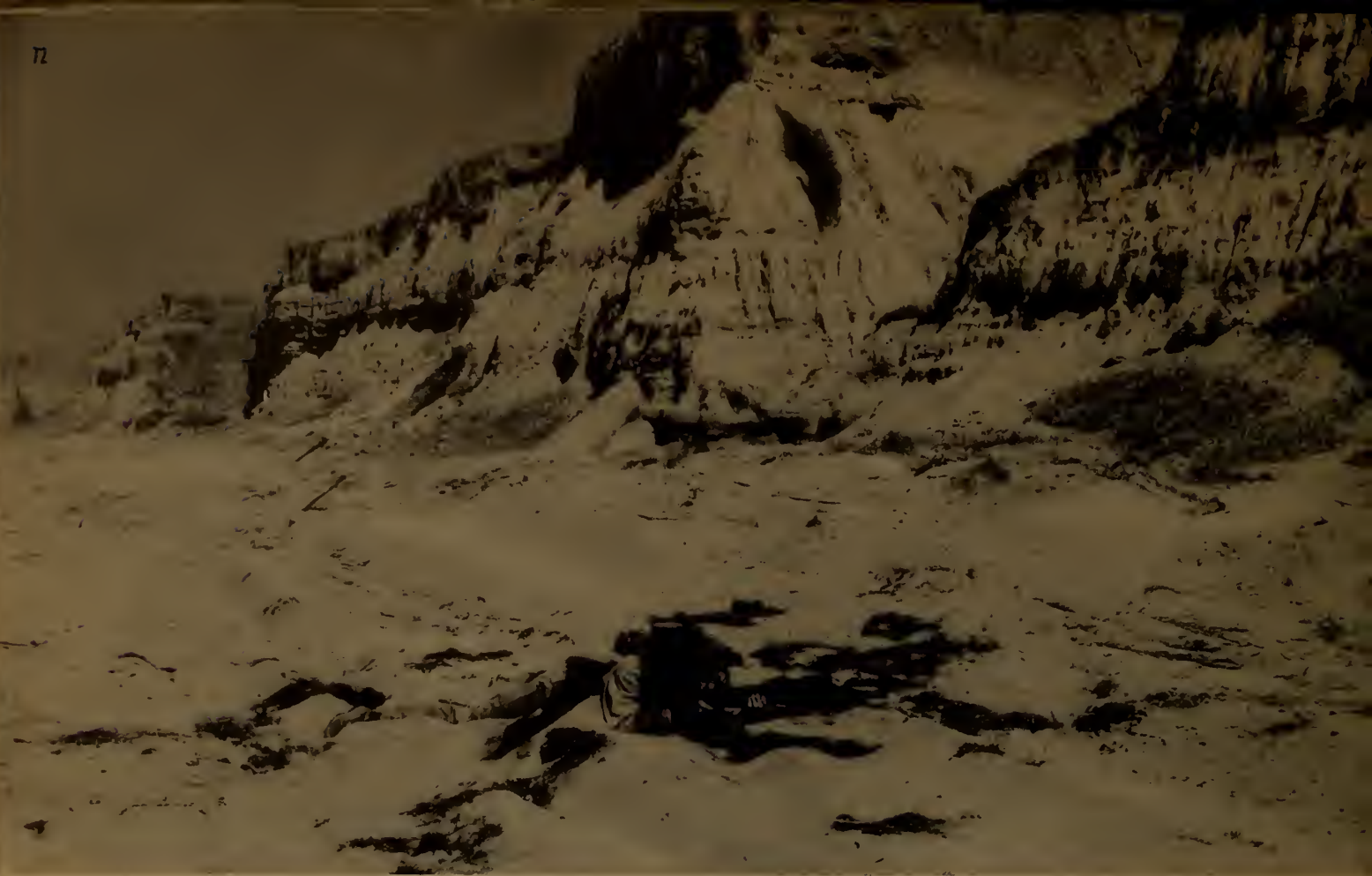
★ Just about everything is wrong with this fellow. He has on a helmet of dark green, very conspicuous against the sand. His dark rifle stands out very plainly against the light color of the sand and also throws a shadow on the far side. He is not in the sand very deep and hasn't had time to cover himself at all. But his worst fault is his choice of position. One step either to the right or left is a dark patch of seaweed which would furnish him a dark and irregular background. It is no doubt full of flies but flies are preferable to bullets.



★ The same man all camouflaged. His dark head and shoulder shape is seen against a background of dark seaweed. He is in the sand a bit deeper and has banked the loose sand against his body to take care of the shadow. He has thrown sand all over himself for color and texture and has added a few strands of the seaweed. His helmet is sand and grease covered and he has a lot of seaweed thrown across it. He is purposely firing across a patch of dark weed so his rifle is seen against this background instead of the lightness of the sand.

★ Here you are, closer than a Jap could ever get to this marine and still live. Notice that the seaweed disrupts the helmet shape so much that you cannot tell exactly what it is. The parts which show through are the color and texture of sand. The dark shadow blends in with the dark weed. This man was running with his left hand full of seaweed. When he hit the deck he held the rifle in this hand and threw sand on himself with the other. The weed covered his hand and arm and helped break the shape of the rifle. The trick now is to hold very still.





## HITTING THE BEACH

A sandy beach affords no natural cover and little opportunity for concealment. Men and material can be spotted easily and are vulnerable to enemy aerial attacks. In large scale landing operations where the element of surprise is over at the moment of the first assault, troops must be advanced beyond this dangerline with all possible speed.

On the other hand, reconnaissance patrols or sabotage and demolition parties are very often compelled to land and operate by stealth. Their presence must not be suspected until after the mission has been accomplished or the objective has been reached. Even after landing at night, an amphibious patrol may have difficulty crossing an open beach or find themselves pinned down and unable to move until they have succeeded in knocking out an enemy sentry or observation post.

It is essential that men assigned to such operations know how to conceal themselves, and stalk an enemy sentry across the sand.

A sentry hasn't eyes in the back of his head. Stalk him when his back is turned. Advance by short rushes. When you hit the deck, burrow in quickly and throw sand over yourself. If there is seaweed handy, a strand or two across the body will help to break up your outline. Anticipate his movements and freeze before he looks in your direction. It is quite possible to get within striking distance without being seen. The noise of the surf will muffle any sound of your approach.

A word of warning. Never dispose of an enemy sentry until at least ten minutes past the hour. Sentries are usually relieved on the hour. It would be fatal to knock one out and then have his relief turn up a few moments later to give the alarm. ~





THE ROAD TO VICTORY MUST BE PAVED WITH THE ENEMY DEAD—  
NOT WITH THE BODIES OF COMRADES WHO, THROUGH CARELESSNESS,  
DIED NEEDLESSLY AND IN VAIN. ★ ★ FOR EVEN THE BEST  
TRAINED OUTFITS THE FIRST BATTLE IS STILL THE FIRST—AND MEN  
WILL DIE FOR FAILURE TO LEARN THEIR LESSONS. ★ ★ ★





"I MUST LEARN TO SEE.

I MUST LEARN TO SEE MY ENEMY

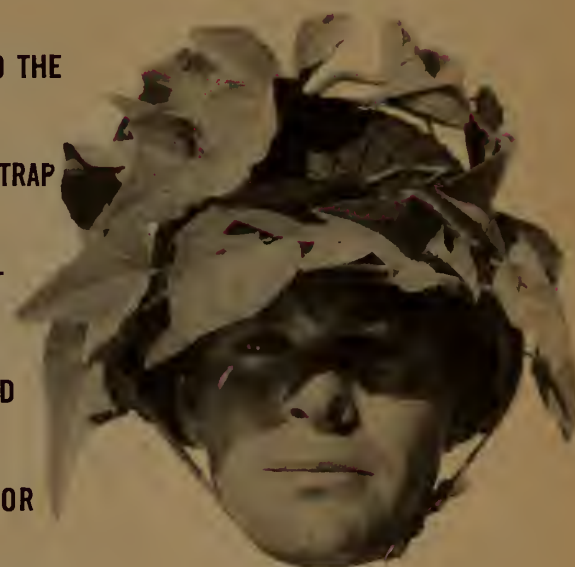
FIRST-AND I MUST LEARN TO OUTWIT,

AND TRACK HIM DOWN. I MUST LEARN





PATIENCE, AND HOW TO MOVE BY  
STEALTH, SILENTLY, BY DAY OR IN THE  
NIGHT. I MUST KNOW THE JUNGLE IN-  
TIMATELY, SO THAT I MAY USE IT TO THE  
UTMOST ADVANTAGE TO CONFUSE, TRAP  
AND DESTROY MY ENEMY. I MUST  
BLEND WITH EVERY SHADOW AND  
MERGE WITH EVERY VINE, LEAF, OR  
PALM FROND. I MUST BE A PART OF  
THE JUNGLE, A SERPENT ALWAYS  
STRIKING UNSEEN."

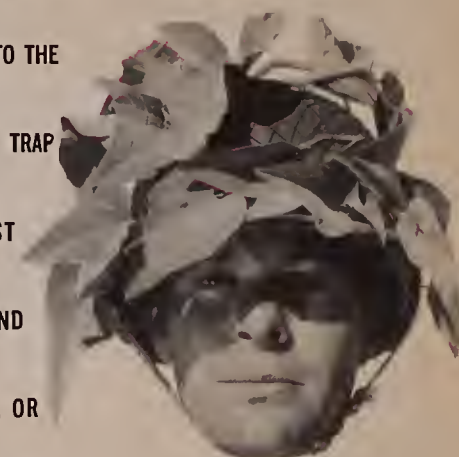




"I MUST LEARN TO SEE.  
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FIRST-AND I MUST LEARN TO OUTWIT,  
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## CAMOUFLAGE NOTES



In some instances camouflage is difficult—but you can keep flat. Don't expose yourself more than necessary.





## CAMOUFLAGE NOTES



Here's an underwater bridge like those which the Russians found successfully eluded aerial observation.



## CAMOUFLAGE NOTES



So you're out of face paint. This Marine stuck leaves from the same bush to his face. So can you.

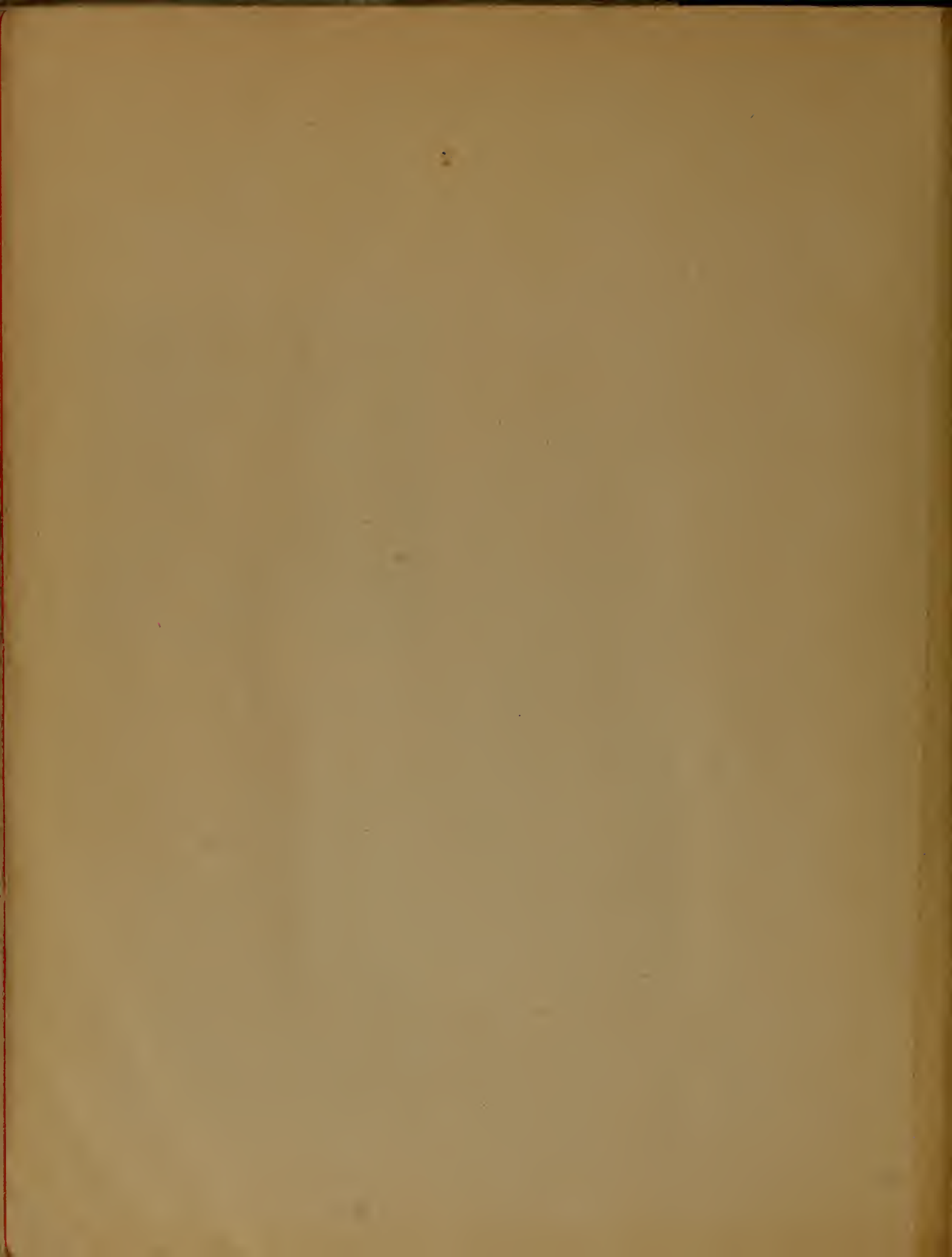




## CAMOUFLAGE NOTES



Paint or wrap your rifle with garlands. Tie on bits of foliage. It helps to break up that tell-tale shape.





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C.2 CAMOUFLAGE FOR MARINES.

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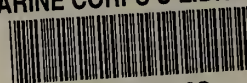






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